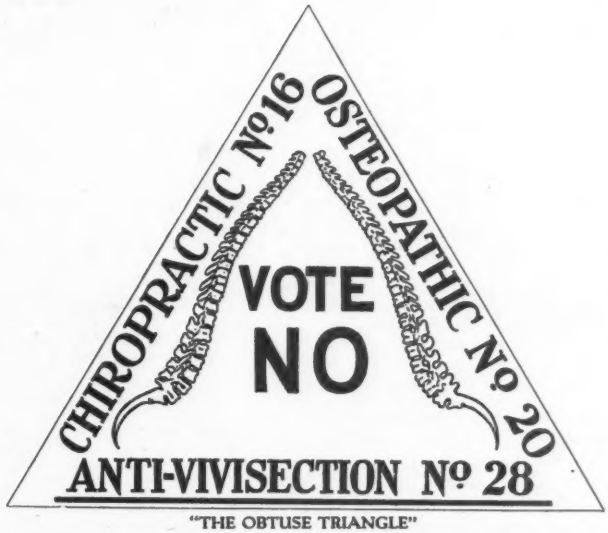
CALIFORNIA STATE JOURNAL OF MEDICINE



"THE OBTUSE TRIANGLE"

Chiropractic — Osteopathic — Anti-Vivisection Initiatives:

These three weird sisters meet again obtusely repeating the same old stories in the same old way. "Fair is foul and foul is fair" is still their campaign slogan. The three combined would permit the unqualified to practice unscientifically and prohibit the qualified from practicing scientifically.

OCTOBER · 1922

Vol. XX. No. 10 $4.00 a Year, Single Copies 35 Cents

California State Journal of Medicine

OWNED AND PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA
Entered at San Francisco, California, as Second-Class Matter

BALBOA BLDG., SECOND AND MARKET STS., SAN FRANCISCO

EDITOR AND SECRETARY - - - - - - - - - W. E. MUSGRAVE, M. D.
ASSOCIATE SECRETARY - - - - - - - - - - - H. H. JOHNSON
MANAGING EDITOR - - - - - - - - - - CELESTINE J. SULLIVAN
SUPERINTENDENT OF PUBLICATIONS - - - - - - WILLIAM H. BARRY

October Contents

Contributors, subscribers and readers will find important information on Page 42 of Advertising Section

California State Journal of Medicine

OWNED AND PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA

BALBOA BUILDING, SECOND AND MARKET STREETS, SAN FRANCISCO

Editor and Secretary - - - - - - - - - W. E. MUSGRAVE, M. D.
Associate Secretary - - - - - - - - HOWARD H. JOHNSON, M. D.
Managing Editor - - - - - - - - - - CELESTINE J. SULLIVAN
Superintendent of Publications - - - - - - - - WILLIAM H. BARRY

VOL. XX OCTOBER, 1922 No. 10

"The Obtuse Triangle"

Chiropractic-Osteopathic-Anti-vivisection Initiatives! These three weird sisters meet again obtusely repeating the same old stories in the same old way. "Fair is foul and foul is fair" is still their campaign slogan.

In the light of well-known facts, their clamorous claims and absurd accusations of persecution, incompetency, injustice and cruelty hurled at a mythical "Medical Trust" vanish into thin air.

All three prate about "Rights." One would make the *rights of rats and guinea-pigs* superior to man, whilst the other two place the "rights" of their small groups above the majority. All three ignore paramount rights of the people and threaten to break down educational standards and vital public health safeguards. The three combined would permit the unqualified to practice unscientifically and prohibit the qualified from practicing scientifically.

This triple threat has been appropriately called "the obtuse triangle." Two members of the triangle attempt to get quickly—at the polls—what physicians and surgeons must obtain by years of study and special education. *Education Cannot Be Voted Into Them.* Alleged "graduates" of so-called colleges who fail to pass the State Examination need *More Education, Not More Examining Boards.*

All three falsely charge that those opposing these measures are inspired by selfish motives. Health Boards, hospitals, universities, research workers, clinics, laboratories, chemists, pharmacists, biologists, bacteriologists, social workers, the medical, dental, nursing, veterinary professions, et al., in the interests of public welfare, must oppose measures that would nullify educational standards, practically prohibit present scientific service and outlaw future scientific progress.

Devoted scientific men and women have built up dependable institutions and agencies to combat and conquer deadly diseases that attack man and all the living creatures over which he was given dominion. Their noble achievements, their daily curative and preventive work amply answer the obtuse proposals of this triangular combination.

No amount of lurid literature reeking with chiropractic pretense, osteopathic prejudice and anti-vivisection abuse can take the place of such scientific service.

Facts made the people defeat the Chiropractic-Osteopathic-Anti-vivisection measures at the general election in 1920 as unnecessary and unsafe legislation. *Facts* made the California Legislature repeatedly reject these measures as dangerous and destructive. We urge each voter to read the "Chiropractic-Osteopathic-Anti-vivisection Initiatives and *contrast their false issues with Facts.*

League for the Conservation of Public Health,

Balboa Building *San Francisco*

ORIGINAL ARTICLES

RESPONSIBILITY FOR STATEMENTS AND CONCLUSIONS IN ORIGINAL ARTICLES

The author of an article appearing in the JOURNAL *is entirely responsible for all statements and conclusions. These may or may not be in harmony with the views of the editorial staff. Furthermore, authors are largely responsible for the language and method of presenting their subjects. All manuscripts will be carefully read, but editorial privileges will be exercised only to a very limited extent. It is believed that the manner of presentation of any subject by any author determines to no small degree the value of his conclusions. Therefore, both the author and the reader, in our opinion, are entitled to have the subject as presented by the author as little disturbed as possible by the editors. However, the right to reduce or reject any article is always reserved.*

MYOCARDIAL INSUFFICIENCY.*

R. K. BARRY, M. D., San Diego.

In approaching this subject the first thing to consider is, what are the essential symptoms of myocardial insufficiency. While it is necessary in every case to recognize the evidence afforded by careful physical examination supplemented by the use of mechanical aids, it must be borne in mind that the facts when revealed do not give the information which is essential. The essential question for the physician to decide is whether the symptoms indicate the presence of an insufficient myocardium and the likelihood of heart failure. This knowledge can only be acquired in many cases by understanding what happens when the individual is engaged in some occupation that calls for some extra effort on the part of the heart. Hence all means of observation employed when the body is at rest can only yield very incomplete evidence. The kind of evidence which is essential is to be sought for in the symptoms evoked when effort is made, frequently only evoked then; as well as in the symptoms of functional insufficiency when the body is at rest. These symptoms are often so elusive and so insignificant that they readily escape the attention, while it is often difficult to appraise their value when detected. As our knowledge of what is meant by heart failure increases, the real significance of such symptoms will be revealed. Heart failure may be defined as the condition in which the heart muscle is unable to maintain an efficient circulation during the efforts necessary to the daily life of the individual.

Attacks of angina pectoris constitute a very definite clinical picture with which you are all quite familiar. Typically there is a sudden severe pain situated behind the lower sternum radiating perhaps to the neck or left shoulder or to the inner side of the left arm, associated with a strong sense of constriction of the chest, so that the breath is caught with difficulty and with a sense of great weakness and anxiety so that the patient feels that he will surely die. At the time of such an attack the patient is prostrated. The pulse may or may not be increased in rate but is often irregular. These attacks are very typical and are not difficult to recognize, either when they are seen or when the patient tells you about them, and I believe that to such attacks as these the term angina pectoris should be confined. Then we have a train of symptoms associated with coronary disease which differ somewhat from those of true angina. The pain, which is usually less severe, is a mid-line pain. Its characteristic seat is behind the lower sternum opposite the third and fourth intercostal spaces, at the xiphoid or in the epigastrium opposite the fifth intercostal space. Rarely it is felt as high as the second intercostal space. When severe it radiates and passes laterally to the left or right at these levels and may seem to pass through to the back. In the lesser manifestations or coronary disease seen early, there may be no pain at all but merely a sense of discomfort, felt especially under the lower sternum or in the epigastrium and not as the patient will say, "in the stomach." It is never a constant sensation, but comes in attacks, and these attacks either arise spontaneously when the patient is at rest or come on as the result of exercise, so that the patient must stop and rest until the discomfort passes off. It has a very peculiar character best described as a gripping or a sense of compression beneath the sternum. The pain occurring in cases of myocardial disease is of a different character from that of coronary origin, being mostly to the left of the mid-line and radiating to the region of the apex beat, or being felt only at the apex. It does not have the radiation to the back, neck or arm except when very severe, and is a more continued pain than the gripping paroxysmal pain of coronary disease. Its character is more aching even though it should be, as it sometimes is, very severe indeed. When these conditions cause pain there is nearly always objective dyspnoea, a very rare occurrence with coronary artery attacks.

The pain felt by neurotic patients and patients with hyperthyroidism is not in either case a mid-line pain, but lies to the left of the sternum, like the pain of cardiac disease, and is most often situated about the region of the apex beat. That these patients have typical areas of hyperalgesia may lead you to a stronger belief that organic disease is present, but you must not be deceived by this into a diagnosis of cardiac disease. These pains, like those of coronary disease, may be brought on or increased by exertion, but there is an irregularity of occurrence after exercise which is characteristic, and this taken with the lateral situation of the pain and the fact that it moves around, together with evidence of a neurotic make-up of the patient, should enable us to readily recognize the origin of the symptoms. It is important to remember that these pains do not occur with the milder forms of hyperthyroidism, so that the rapid pulse or tremor or some of the other signs or symptoms of Graves' disease will be pres-

* Read before the Southern California Medical Society, 65th Regular Annual Meeting in San Diego, 1922.

ent to help you. In looking over my records of cases of myocardial insufficiency I found fourteen cases that I have seen in the last year and a half in which the symptoms did not coincide with any of those above, and the true nature of the malady had not been suspected either by their physicians or by the patients themselves until the disease had progressed well toward a fatal termination. Nine of these patients have died and the other five are still under observation.

I have not included in these fourteen cases any case in which the symptoms attracted either the physician or the patient to the heart as the cause of the trouble, and wish to emphasize that none of these cases were considered heart cases until the disease was well progressed.

CASE REPORTS

Case I. Male 63—Had been a railroad official, now retired. Had complained for a number of years of indigestion. He had been treated by several physicians with no appreciable relief. He was generally advised that his malady was due entirely to his stomach and bowels and was dieted and given treatment along that line. One morning I happened to be at his home and was called into his room and found him deathly pale, covered with cold perspiration and unconscious. (This was the first time I had seen him professionally as he had been under the care of another physician.) He had arisen as usual in the morning and was feeling very well. He went into the bathroom to shave and suddenly fell and I was immediately asked to step in and see him. Upon examination his pulse was not felt at wrist and, listening over his heart, the heart beat was rapid and grossly irregular. As his pulse returned, a polygraphic tracing taken then showed the attack to be one of paroxysmal auricular fibrillation which soon subsided and the heart beat became perfectly regular except for an occasional premature auricular beat which soon disappeared, and I never found any irregularity in his pulse afterwards. He had no pain at any time and his only complaint was his indigestion and intestinal flatulence. He died in a neighboring city recently, and I will quote the following from a letter I received from his wife: "Mr. J. was very well all summer and we put off from month to month going down to see you. We had been out to Van Nuys all day, and after dinner he said: 'I feel exceptionally well tonight.' But a few minutes later gas began to bother him. I gave him soda but it didn't give him any relief. He had no pain in his heart but it beat very fast. He just said, 'I am so nervous, I can't stand it,' and became unconscious." I had this man under observation for some time after the first attack and outside of his heart being slightly enlarged there was nothing that would attract one's attention to it. The rate was normal, rhythm was regular. There were no abnormal sounds. There was no swelling of the feet, nor cough.

Case II. A man 54 years of age walked into my office complaining of pain in his stomach. He gave the following history: He had had a similar attack of indigestion, as he termed it, accompanied with severe pain while on the street two years ago and he was taken to the office of a chiropractor, who treated him for three weeks, during which time he was up and around. Since then he had been troubled a great deal with a sour stomach. He said that he ate too much, always having a good appetite. Under closer questioning he admitted having felt pain in the epigastrium after running, lifting, or going up hill. But all the time during the past two years he had done his work on his ranch and had been very well with the exception of his indigestion, which was always relieved immediately when he could get up the gas. Never had had any swelling of his feet; no cough except when he had a cold; never had rheumatism, tonsillitis or "flu," but his teeth were bad. He had had scarlet fever twenty years before, measles eight years before. On the day he consulted me he had carried two grips a considerable distance in Los Angeles and had taken the bus for San Diego. Soon after leaving Los Angeles he began to feel discomfort in his stomach, which increased, and when he arrived at Oceanside the discomfort had increased to such a degree that he went into the drug store to get something to make him vomit. After vomiting he felt better. He then stated that he knew it was his stomach, because he was always relieved after he could expel the gas. Examination revealed a well-nourished, well-muscled man, who had led an active outdoor life. His face was somewhat ashen, he was perspiring, held his hand over his epigastrium and complained of sense of fulness which was killing him and said if he could get something to expel the gas he would be all right, as he had had similar attacks before. His pulse was 84 regular, except for an occasional P. V. B. His B. pressure was 150 s. and 80 D. His apex was in the fifth interspace at the nipple line. The area of cardiac dullness extended 10½ cm. to the left of the median line and 3 cm. to the right. The first sound at the apex was split and second at apex was a trifle loud. At the base the aortic second was louder than the pulmonic. There were no murmurs anywhere except a slight after-tone to the aortic second heard at the ensiform. There were no rales to be heard in the chest. Urine S. S. showed a S. P. of 1026, no albumen, no casts. He was soon enough relieved to be taken home, although the distress never entirely ceased, and the next day there was some adema at the bases of the lungs, and he died suddenly while talking to his wife that evening. Post-mortem examination showed a heart somewhat enlarged, a thickened fibrous aorta with plagues, narrowed and sclerosed coronaries with complete occlusion of the left coronary by a thrombus.

Case III. Woman 60 years of age, who gave a history of abdominal symptoms for a number of years, always accompanied by gas on her stomach. She had been operated on for some pelvic disturbance and for appendicitis. She was now in the hospital to be operated on for a growth in the descending colon. I was called to examine her heart. I found a large, fleshy woman with some edema of her arms, giving a history of her feet swelling when she was up and around. She said she had a great deal of gas on her stomach and bowels, pain in her left side of abdomen, which had led up to where she was about to be operated for a growth in the descending colon. Upon examination, her pulse was 100, perfectly regular. B. P. 100, S. 70 D., area of cardiac dullness extended 11 cm. to the left and 4 cm. to the right of the median line. First sound at the apex was fairly good, the second at the apex was very faint, at the base the pulmonic second was much louder than aortic second. A faint systolic murmur was heard over the aortic second, but was not heard in the carotids. There were a few rales in both bases and a polygraphic tracing showed nothing except a variation in the output of the left ventricle. She said she felt quite well at present, except she was having a great deal of gas on her stomach. This patient was kept in bed and died suddenly about two weeks later, after excitement caused by transacting some important business. Dr. Thomson's report of post-mortem was as follows: Heart, large and moderately dilated, dark in color, right V. wall very thick, papillary muscles hypertrophied. Heart muscle very soft and friable, showed edema, was so soft that by a small amount of pressure the finger would go clear through. Chest contained fluid, both lower lobes of lung compressed. The descending colon was somewhat contracted, but showed no evidence of growth.

I have not the time to relate the histories of all these patients, but will give you a résumé of them. In eight cases the abdominal symptoms were accompanied at times with severe pain. Of this group of eight cases five of them had a blood pressure much below normal and in three the B. P. was slightly elevated. Six of this group are dead, all died very suddenly. Six of this group were males between the ages of fifty-four and seventy-six, and two were females between the same ages.

In none of these cases was there any valvular lesions of importance. The second group in which there were no attacks of pain, consisted of six patients, all males. Three of them had a low B. P. and in three of them the B. P. was slightly elevated. Three of this group are dead, all died rather suddenly according to reports; the exact termination I haven't been able to find out in all cases, as they died after leaving San Diego. Two of those that died had a low B. P. and in one it was elevated. Two of this group had pulsus alternans; in one the alternation followed a premature auricular beat, and in the other the alternation was continuous. The patient with continuous alternation is still alive, while the one with the short periods of alternation following the premature auricular beats is dead.

Of the whole series of fourteen cases only four of them showed a constant regular sequence of events in the cardiac cycle. Five of them showed periods of alternation in the polygraph tracing. Of these five three are dead and two are still living; of the remaining five cases one had an attack of paroxysmal auricular fibrillation; one had attacks of paroxysmal tachycardia with a short run of auricular flutter and is still alive, although he fell over in the park not long ago. Three showed only a premature V. beat, two of which are dead. Of the nine deaths all except two had some disturbance of the cardiac rhythm or pulsus alternans. In one of the cases with pulsus alternans, an electrocardognam showed a splintering of the Q. R. S. complex in lead 2.

Every one of the series had a heart enlarged to a point at or outside the nipple line, and eight of them had a B. P. below normal, six of whom are dead, while five of them showed a slightly elevated B. P., three of whom are dead. They all have this in common that months before the malignant nature of the malady had become apparent, mild gastric and abdominal symptoms had been complained of and the true nature of which had eluded some very competent observers.

The fourteen cases were all between the ages of fifty-four and seventy-eight, the greatest number being between the ages of fifty-four and sixty-five. There was no evidence of syphilis in any of them. None of them gave any evidence of gout, lead alcohol, nor the misuse of tobacco. I have not been able to trace any of these cases to a definite infectious origin. None of these cases were observed in my hospital work, all of them being observed in my private practice, which is the field par excellence for the observation of these cases.

The abdominal symptoms were the first signs of the myocardial insufficiency and none of them attributed any of their symptoms to their heart. In the mind of the patient all the symptoms were due to their stomach, otherwise why did the expulsion of gas give them relief. Some of them complained of fullness in the abdomen, having to loosen their clothing after eating and the escape of quantities of gas per rectum. The cardiovascular symptoms vary considerably after the case is well advanced. The pulse may be slow and regular, of good quality, and may be thus maintained throughout an attack accompanied by severe pain. One died and the pulse never went above 80 and suddenly stopped while I was counting it.

The presence of a myocardial insufficiency may first betray itself by some irregularity of the pulse or very low B. P. or the discomfort or pain following some exertion or eating. As the case advances it may develop alternation flutter, premature ventricular beats, premature auricular beats, paroxysmal tachycardia or parox, auricular fibrillation; the B. P. is more often abnormally low than high. In the two cases of which I was able to get a post-mortem, in one there was distinct evidence of aortic and coronary sclerosis, while in the other there was a soft friable edemitus heart muscle through which one could push his finger with slight pressure, with no mention of coronary disease. I think in this type the pain, if there is any, is due to the exhaustion of the heart muscle rather than to an interference with its blood supply, as probably occurs in the type with the attacks of paroxysms of pain. Also this latter group in the interval between the attacks are able to get around and feel comparatively well, while in the group without the pain there was a progressive failure of the heart muscle, and finally the symptoms of cardiac dilatation with edema, and so forth.

The first evidence that there is a cardiac factor as well as an abdominal one may be a sudden drop of the systolic B. P. to a point around 100. There is one school who think there is really an abdominal angina associated with sclerosis of the abdominal arteries, and another school who lean rather to the view that the abdominal symptoms are reflexes from thoracic pathological processes.

The pathological explanation of even true angina is still in dispute. The true coronarians see a degenerative process of the coronary arteries in all cases, while Osler, Graham-Steele and others cite autopsies in which they could demonstrate no lesions of the coronary arteries. Allbutt finds the supragsigmoid area of the aorta the seat of the disease. As to the cause of the pain, the intermittent claudication theory of Allen Burns seems to satisfy many competent observers. It may be defined as a state in which the artery admits enough blood for quiet work but not enough for increased work, and a heart the coronary arteries of which are sclerosed and non-elastic can well bring about this state. On the other hand, Mackenzie holds that the symptoms in all cases are due to exhaustion of the heart muscle; and if I may add my humble opinion, I believe that the type with the paroxysmal attacks of pain are due to some interference with the blood supply to the heart muscle,

while in the other type the symptoms are due to exhaustion of a *diseased* heart muscle.

TREATMENT

The treatment of the two types is different in some respects. Both types are benefited by prolonged rest, mental and physical relaxation, and reduced alimentation. The iodides seem to exert a beneficial influence given over a long period of time. The group of cases characterized by progressive myocardial exhaustion without pain are benefited more by digitalis than are those of the other group. It has been my habit to restrict the proteins somewhat in the type with paroxysmal pain, as well as to diminish the starches in the form of potatoes, bread and cereals. At the same time definitely diminishing the amount of food intake, while in the other group of cases it is usually better to allow a liberal protein diet. I am guided in this by the percentage of urea retained in the blood. The fluid intake allowed depends upon the tendency to edema. The abdominal symptoms are very difficult to relieve at first, but they clear up readily as the heart muscle regains its efficiency. The paroxysmal pain of the one group is usually promptly relieved by the nitrites, while the discomfort and abdominal symptoms of the other group are usually made worse by its use. The greatest difficulty is experienced in convincing the patient what his trouble really is. It is difficult to convince a patient that he must restrict his activities because of indefinite abdominal or gastric symptoms and that his life is in danger because he belches a little or suffers from abdominal gas.

(921 First National Bank Bldg.)

RAILROAD SURGEONS CONDEMN ANTI-HEALTH AND ANTI-EDUCATION INITIATIVES

The following resolution was unanimously adopted by the Pacific Association of Railway Surgeons at their annual convention at San Francisco, August 26, 1922:

Whereas, There are three anti-health and anti-education initiatives before the people to be voted on at the general election, November 7, 1922, namely, the Chiropractic, Osteopathic and Anti-vivisection Initiatives; and,

Whereas, The three combined would permit the unqualified to practice unscientifically and prevent the qualified from practicing scientifically, by lowering educational standards, nullifying vital public health safeguards, making physicians and surgeons out of drugless practitioners with no proper preparation or experience; and,

Whereas, Educated physicians and surgeons would be "debarred forever" under the terms of one of these Initiatives, for daring to use a few guinea pigs to save the lives of countless people, be it.

Resolved, That this twentieth annual meeting of the Pacific Association of Railway Surgeons, in the interests of public health and safety and all whom we serve, do hereby condemn singly and collectively the Chiropractic, Osteopathic, Anti-vivisection Initiatives and urge all those interested in the scientific study, prevention, cure and control of diseases and the promotion of public health to vote against these dangerous measures.

THE GREAT SECOND TYPE OF CHRONIC ARTHRITIS.

By LEONARD W. ELY, M. D., San Francisco.

THIRD STUDY
(Synopsis of Previous Work.)

In several previous articles I have attempted to demonstrate that all cases of chronic arthritis can be divided into two great types or groups differing markedly in their clinical appearance, and radically in their X-ray picture and their pathological characteristics. The first type includes the bacterial infections, and has for its pathological feature a proliferative inflammation in the bone marrow, in the synovial membrane, or in both.

The second type differs sharply from the first in almost every way, and has received many names based on features which their originators deemed important. Among these names may be mentioned arthritis deformans, osteoarthritis, hypertrophic arthritis, degenerative arthritis, metabolic arthritis, senile arthritis, destructive arthritis. The disease has been variously ascribed to trauma, loosely to infection and to some mysterious error in metabolism, some unknown chemical substance floating in the blood stream. I have shown that the disease could not be caused by trauma. The morbid changes in the joint are as different from those caused by bacteria as black is from white, and our efforts at Stanford to obtain bacterial cultures from the bone marrow and from the joint fluid have been uniformly unsuccessful. In such a situation the easiest way out is to take refuge in words, and to say that the disease must be due to metabolic error, to a dyscrasia, to a diathesis, to autointoxication from the colon, to a displaced vertebra or to an error of mortal mind.

This disease is characterized clinically by the presence of bony and cartilaginous ridges at or about the lines of attachment of the capsule, revealed by the Roentgen film. The surgeon who operates upon an affected joint makes his diagnosis upon this production of bone and cartilage, and the pathologist in the laboratory, recognizing the bone and cartilage changes, also bases his diagnosis upon them, and has always maintained that they were the characteristic and fundamental feature of the disease.

I have shown that the changes in the bone and in the cartilage were not primary but were the result of a previous aseptic necrosis in the marrow in the vicinity of the joint. This necrosis affects the bone and the marrow, giving rise to larger or smaller sequestra, and later to cysts, to bone cavities and to the so-called ostitis fibrosa. I have tried to establish the connection of this disease with fracture of the neck of the femur in the aged, and with the arthritis which follows an intra-articular fracture in an elderly person. The whole appearance of the lesion of the bone pointed strongly to a non-bacterial infection as the cause, but up to a few months ago I had never been able to discover any clue as to the nature of this organism.

In two previous papers I had called attention to the coincidence of infection in the alveolar proc-

esses of the jaws in patients suffering with this form of arthritis, and ascribed to this alveolar infection a direct and primary role in the causation.

This is as far as I had been able to go until this year. I quote from a paper prepared for presentation to this Society at its meeting last year, and published in the STATE JOURNAL: "No proof is at hand of the presence of infection in the bone marrow or in the joint fluid. Presumably the necrosis is due to a low-grade infection. In this case the organism itself must die out, or else is of such a nature as to escape detection with our present methods of examination."

WORK DURING THE PAST YEAR

The problem then narrowed itself down to this: What form of organism, not a bacterium, gains access to the circulation through the diseased bone at the roots of dead teeth, and, carried to the bone marrow, causes a necrosis, but never suppuration? Last autumn Dr. J. V. Barrow found the amoeba in the stools of one of my patients suffering with this form of arthritis, and I had the privilege shortly afterward of a long talk with him. Many observers hitherto have suggested a relationship between the amoeba and chronic arthritis, or chronic rheumatism as they were wont to call it. The point here was that the pathological lesion which I have demonstrated to be the primary and essential feature of this particular form of arthritis is exactly what one would expect if the amoeba gained access to the bone marrow. I am firmly convinced that a protozoön is responsible for the disease, as I should be sure of the presence of a gopher if I saw a small, peculiar pile of dirt in a field, and I should not be turned aside by anyone who ascribed it to planetary disturbances or to an excess of carbohydrates in the soil.

The next step was to find the amoeba, to dig up the gopher, so to speak. I recut my material, stained it with iron haematoxylin, and submitted sections of five joints to several authorities. Kofoid and Swezey maintain that they found amoebae in the marrow of one specimen. Their claim at present lacks confirmation, but it is suggestive and opens up an interesting field for investigation, a field which my associates, Doctors Reed and Wyckoff, are cultivating with me, assisted materially by Doctor Gunn. We realize that we have a hard task before us, but we propose to go to the bottom of the matter before we finish. Up to date we have found the amoeba in the stools of only two or three of our patients, as Doctor Reed will tell you.

As to the identity of the organism: I am not yet prepared to acquit the amoeba gingivalis of all blame, and to regard it as harmless in all circumstances, as do most authorities. It may be harmless at the roots of the teeth, but not harmless in the bone marrow. The almost invariable presence of alveolar infection in this disease is at least strong circumstantial evidence.

Kofoid and Swezey are fairly positive of their identification of the amoeba histolytica in one of my specimens, and ascribe the organism as occupying the exact situation which the nature of the fundamental lesion would indicate, namely, ranged along the finer capillaries of the marrow near the joint.

Concerning the symptomatology and pathology I have nothing to add to the descriptions in my two earlier studies. As to treatment: The first indication is to remove the infection about the roots of the teeth—to close the portal of entry, so to speak. Extraction is the only rational procedure, in my opinion. My experience with the so-called radical operation, that by chiselling away the alveolar process, and cleaning out the suppurating osteomyelitis is not such as make me eager to recommend it to others. Simple extraction gives the best results.

The next step in the treatment is to search for amoebae in the stools of the patient, and to eradicate them by some preparation of ipecac if they be present.

In certain cases, in which the pain continues after the removal of the focus of infection in the jaws, the injection of a foreign proteid intramuscularly may be of service. In this connection it should be remembered that when a joint is badly damaged mechanically by the disease, the pain and discomfort felt when it is used may persist, even when the active disease has subsided.

Hydrotherapy and dry heat will also be found of help to quiet the pain. In the severe cases of this form of arthritis, occurring in a single joint, as in the knee, or especially in the hip, a resection often offers the best way out.

Most cases of brachial neuritis, myositis, fibrositis, radiculitis, lumbago and sciatica, will on examination be found due to a spinal arthritis and will improve under treatment along the lines I have indicated.

NEW CASES

Following is a tabulation or seventy-three new cases seen at the Stanford Clinic during the past year. In numbers, and in almost every way, they run about parallel to the two preceding series. The presence of alveolar infection is determined almost invariably by our dentist, Dr. Campbell, with the X-ray.

Fifty-six of the patients were men, seventeen were women. The youngest was 27 years old, the eldest 87. One patient was in the third decade of life, sixteen in the fourth, seventeen in the fifth, sixteen in the sixth, eighteen in the seventh, five in the eighth, and one in the ninth. Alveolar infection was present in fifty-two patients, probably present in eleven patients. Five of these latter did not have radiograms taken. In one patient the question of alveolar infection was not determined. All teeth were gone from the mouths of eight patients. This is prima facie evidence of previous infection. Alveolar infection was absent in only one case.

The analogy of the cases in this series with those in the two preceding is so close that the disease might almost be charted with regular curves. Basing the statement upon clinical and laboratory work I think we are now justified in laying down the following description:

The great second type of chronic arthritis is

probably caused by a protozoön which almost invariably gains access to the system through the diseased bone at the roots of decayed teeth. Its prime pathological characteristic is an aseptic necrosis in the marrow in the immediate vicinity of the joint, and it is recognized radiographically by the presence of the spurring and lipping at the lines of attachment of the capsule. It is about twice as frequent in men as in women as clinically observed. It is distinctly a disease of middle and late life, and never occurs before the third decade. Up to date the best results in treatment have been obtained by the removal of the focus in the alveolar process of the jaws.

No.	Age	Sex	Occupation	Joints Involved	Alveolar Infection
153	45	F.	Housewife	Knees	Present
154	33	M.	Laborer	Tarsus	Present (Complete recovery)
155	58	M.	Baker	Hip Old healed fracture of neck	Present
156	33	M.	Glasshouse factory worker	Spine	Probably present. Would not have teeth X-rayed
157	45	M.	Laborer	Spine	Present
158	67	M.	Laborer	Spine	Present
159	36	M.	Laborer	Spine	Probably present
160	48	F.	Student	Knees	Not determined
161	64	M.	Laborer	Knee	All teeth removed 20 years previously
162	62	M.	Laborer	Spine	Present
163	56	F.	Housewife	Shoulder and knee	Present
164	34	M.	Laborer	Spine	Present (probably)
165	43	M.	Laborer	Spine	Present
166	52	M.	Carpenter	Spine	Present
167	42	M.	Laborer	Spine	Present
168	52	F.	Domestic	Hands	All teeth gone
169	52	M.	Barber	Spine	Probably present
170	73	M.	Janitor	Knees	Present
171	55	M.	Laborer	Knee	Probably present
172	35	F.	Housework	Sacro-iliac	Present
173	35	M.	Laborer	Spine	Present
174	61	M.	Tinsmith	Spine	Present
175	65	F.	Housewife	Knees	Present
176	50	M.	Laborer	Spine	Present
177	67	M.	Salesman	Spine	All teeth gone
178	78	F.	Housework	Knee	Present
179	57	F.	Housework	Knees	Present
180	48	F.	Housewife	Knees	All teeth had been removed for decay
181	56	M.	Motorman	Spine	Not determined by X-ray. Teeth suspicious
182	63	M.	Lumberjack	Spine	Apparently present about few remaining teeth. No X-ray taken
183	40	M.	Laborer	Spine	Apparently present. No X-ray taken
184	53	F.	Housework	Knee	Present
185	67	M.	Railroad worker	Multiple	Present
186	27	F.	Domestic	Spine	Present
187	46	F.	Dressmaker	Knee	Present
188	48	F.	Laundry work	Knees and feet	Present
189	48	M.	Laborer	Spine	Present
190	66	M.	Laborer	Knee	Present
191	67	M.	Laborer	Spine	Probably present. No X-ray taken
192	52	M.	Seaman	Spine	Present
193	66	M.	Laborer	Spine	Present
194	65	M.	Laborer	Spine	Present
195	42	M.	Carenter	Spine	Present
196	63	M.	Laborer	Wrist	Present
197	70	M.	Stonemason	Spine and acromioclavicular	Present
198	52	M.	Tailor	Spine	Present
199	60	M.	Laborer	Multiple	Present
200	46	M.	Expressman	Spine	Probably present
201	48	M.	Laborer	Spine	Present
202	36	F.	Officeworker	Spine	Present
203	56	M.	Blacksmith	Spine	Present
204	34	M.	Waiter	Spine	Present
205	75	M.	Watchman	Spine and shoulder	Present
206	49	M.	Houseman	Spine	Present
207	39	M.	Stevedore	Spine	Present
208	49	M.	Laborer	Spine	Present
209	67	M.	Glazier	Shoulder and acromioclavicular	All teeth gone
210	50	M.	Packinghouse worker	Hips	Absent
211	63	M.	Cook	Spine	Present
212	54	M.	Laborer	Spine and shoulder Dupuytren's contraction!	Present
213	76	M.	Laborer	Spine	All teeth gone
214	35	M.	Laundry worker	Spine	Probably present. No X-rays
215	35	M.	Laborer	Spine	Present
216	61	M.	Solicitor	Spine	Present
217	32	F.	Housewife	Knee	All teeth gone
218	60	M.	Cook	Spine and feet	Present
219	43	M.	Laborer	Knee	Present (Note—Amoeba found in stools)
220	46	F.	Housewife	Spine	Present
221	39	M.	Salesman	Spine	Present
222	38	M.	Laborer	Spine	Present
223	62	M.	Driver	Knee	Present
224	87	M.	Ex-miner	Spine and knee	Edentulous
225	37	F.	Stenograher	Spine	Present

MEASUREMENTS BASED UPON ROENTGEN EXAMINATION OF ONE HUNDRED NORMAL CHILDREN.*

By ELISABETH SCHULZE, M. D.
(From Department of Roentgenology, University of California Medical School)

Much has been written about the pituitary and its normal function in growth and development, as well as about disorders arising from disturbed function. Aside from the changes and symptoms to which these disorders lead in accessible parts of the body the most direct method of approach to investigation on the living subject is the X-ray study of the size and shape of the sella turcica. Various investigators, undertaking to define the normal latitude of variation in the size and shape of the sella, have come to the conclusion that there is a wide range of variability in individuals presenting no evidence of pituitary dysfunction clinically. Others have found that cases with fairly marked clinical evidence of dysfunction may occur which do not present any deviation from the normal limits, as far as the size and shape of the sella is concerned.

Recently A. J. Pacini, in attacking this problem, has called attention to an angle at the base of the skull, the so-called sphenoidal angle of Welcker; and to the possible relation of the size of this angle and the type of sella accompanying it, to pituitary functional disturbances which could not be determined by study of the sella alone. The angle, originally described by Virchow many years ago, and then studied by Welcker and Broca, and concerning which very little has since been contributed, lies between two lines in the central sagittal plane of the skull. One line extends from the nasion, or anterior central point of the fronto-nasal suture, to the turcicon, or the middle point of the sella; the other extends thence to the basion, or anterior point of the rim of the foramen magnum. In making his studies Pacini chose instead of this angle, another, which is a little more easily laid out on the X-ray plate, namely, the angle between the lines, one, as above, running from the nasion to the turcicon, but the other running thence to the akousticon, or uppermost point of the external auditory meatus shadow, instead of to the basion. This angle, he maintains, is directly analogous to the original sphenoidal angle of Virchow and Welcker. Although there are a number of statements in the body of the paper and in the conclusions, which, probably owing to typographical error, are directly contradictory to each other, I believe that the impressions which he wished to express are as follows: The angle of Welcker, which normally is flattest in infants, becomes progressively more acute in the child, the woman, and the man (representing progressive stages in skull evolution). With this progressive narrowing of the angle, the sella, which in a measure surrounds the apex of the angle, is opened up so that the clinoid processes diverge more and more and the volume of the pituitary increases. In other words an obtuse angle and a closed sella (apparently meaning one in which the clinoid processes seem to closely approach each other or to overlap on the X-ray plate) are characteristic of the child and woman, while a more acute angle and an open sella are characteristic of man. If pituitary function becomes abnormal before skeletal growth is complete this relationship may be disturbed. Thus, a female type of angle (obtuse) may be accompanied by an open sella, indicating hyperpituitarism, or a male type of angle (more acute) may have a closed sella, indicating hypopituitarism. Other similar points are brought out. The average measurement of the angle (for adults) is 135 degrees; females should range above this and males below, the extremes being 160 degrees in a woman and 110 in a man. Children would presumably range from very high to the average reading, according to their ages.

In order to verify, if possible, some of these statements, and also to bring out new points of interest, one hundred normal children fairly evenly distributed as to age from three to sixteen years, were studied. There were about equal numbers of the two sexes. Among these children there were many groups of brothers and sisters. Careful measurements of the height (standing and stem-length) and the weight were made, as well as a rough estimate of the intelligence. Most of the children conformed to the limits of the averages determined for these measurements by Burke and others from very extensive material. A number, while a little above or below the average, were still within the normal limits of individual variation. The intelligence varied from very bright to dull, without any distinctly abnormal cases.

X-rays were taken of the hands and wrists to study centers of ossification, etc.; and of the skull, an attempt being made to get an absolutely true lateral of the sella in every case, but here considerable difficulty was encountered. Pacini's technique, as described, if accurately followed, gives a true lateral, but the least deviation (which is hard to avoid unless the greatest care is exercised) causes a wide variation in the measurement of the angle he describes, that is, if one takes into account only the external auditory meatus of the side next to the plate. Pacini makes no mention of using both. However, if the angles to both meati are measured and the reading midway between the two is taken, it remains quite constant for any reasonable deviation on a lateral plate, and measures the same as that obtained by very accurate technique. It does not make any difference which side of the head is next to the plate, although Pacini laid great stress on this point. These points were very clearly demonstrated by taking pictures of a skull in which the angles themselves were actually outlined with wires, also by checking these findings on numerous living subjects.

When the angle was measured by the Pacini method it was found to range from about 140 to 165 degrees in these normal children, the average being 151 degrees, and there being no appreciable average difference between the younger and the older children, nor in the heavy and light weight, nor in the tall and the short.

* Read before the Section on Radiology of the California Medical Association in Yosemite National Park, May 18, 1922.

Thinking that perhaps more acute angles would be found in adults, one hundred normal cases were measured, about equal numbers of males and females, and the range in males was found to be from 135 to 165 degrees with an average of 149 degrees, while in females it was from 138 to 160 degrees with an average of 147 degrees, in other words so slight a difference as to be of no practical importance. A few cases of hyper and hypofunction of the pituitary with and without recognizable sellar changes were also measured and gave no different or distinctive findings. As one may readily note, these figures are much higher than those given by Pacini. The only way I can account for the discrepancy is that Pacini perhaps measured from one meatus only and so may not have gotten the true value of the angle, or that he had a different type of patients, which does not seem very probable since a number of nationalities were included in our series, and no constant difference was noted.

Concerning the width of the space between the anterior and posterior clinoid shadows, which Pacini lays stress on, nothing characteristic could be made out. There was a wide variation without particular relation to age, sex, or size of the sphenoidal angle. With the general increase in the size of the skull the sella increases in size also.

Finding these results rather ungratifying, an attempt was made to mark out the true sphenoidal angle of Welcker on the plates and to see if anything could be gained by a study of it. We found that after it had been mapped out by wires on a dry skull and then located in Roentgenograms of this, it was also fairly easily located on plates of the living subject, and in no case did the angle as measured vary more than three or four degrees in different pictures of the same subject. The measurements thus obtained conformed much more closely to those given by the old anthropologists for this angle. Welcker gives a table in which, from the measurement of eight infants, he obtained an average of 141 degrees, from ten children 137 degrees, and from thirty adults 134 degrees. While these figures were obtained from accurate measurements on the skull, the difference is so slight that it would be difficult to check on X-ray plates, since it is almost within the limits of error by this method. The measurements actually obtained from X-rays varied from 122 to 142 degrees, running slightly higher in the younger than the older groups, the general average being about 133 degrees.

Aside from this matter of sphenoidal angles a few other points of interest were noted.

Tracings were made of the size and shape of the sella as shown on the X-ray plates and a definite resemblance in the size and conformity of the sella in individuals belonging to the same families was noted. About twenty-five family groups of two to five children were studied. No reference to this observation could be found in the literature, although Schuller has called attention to the fact that there is a family resemblance in the shape of the bones of the head, and that this accounts as much or more than the configuration of the soft parts in bringing about a similarity of features.

A slightly calcified pineal, verified by another plate, was found in a girl of thirteen years, seven months, apparently normal.

The time of appearance of centers of ossification in the wrists and of epiphyses showed a wide variation and was not always the same for the two wrists of the same individual.

CONCLUSIONS

The angle of Pacini was not found to be analogous to the sphenoidal angle of Welcker, nor could his measurements for his angle be confirmed.

There is a definite family resemblance in the size and shape of the sella.

I wish to express my apreciation of the valuable advice and aid of Dr. H. E. Ruggles in the preparation of this work. He has suggested other measurements, such as the ratio of the distance from the naison to turcicon, to the distance of the point of the chin from the turcicon, which give promise of being much greater value and which will be the basis of a later report.

ABOUT BIRTH CONTROL

Whatever else one may think about birth control and methods for making it effective, the much expressed modernity of the idea is probably about as accurately stated as are many other so-called "scientific facts." Adolph Koenig (Pennsylvania Medical Journal, August, 1922), calls attention to Elegy XIV, Book II, Ovid, written about the time of the birth of Christ, a translated quotation of which is interesting and instructive:

"Because thy belly should rough wrinkles lack,
Wilt thou thy womb-enclosed offspring wrack?
Had ancient mothers this vile custom cherished,
All humankind by their default had perished;
Or stones, our stock's original, should be hurled
Again, by some, in this unpeopled world.
Who should have Priam's wealthy substance won,
If watery Thetis had her child fordone?
In swelling womb her twins had Ilia killed,
He had not been that conquering Rome bid build.
Had Venus spoiled her belly's Trojan fruit,
The Earth of Caesars had been destitute.
Thou also, that wert born fair, had'st decayed,
If such a work your mother had essayed.
Myself, that better die with loving may,
Had seen, my mother killing me, no day.
Why tak'st increasing grapes from vine trees full?
With cruel hands why dost green apples pull?
Fruits ripe will fall; let springing things increase;
Life is no light price of a small surcease.
Why with hid irons are your bowels torn?
And why dire poison give your babes unborn?
At Colchis, stained with children's blood, men rail,
And mother-murdered Itys they bewail.
Both unkind parents; but, for causes sad,
Their wedlocks' pledges venged their husbands' bad.
What Tereus, what Jason you provoke,
To plague your bodies with such harmful strokes?
Armenian tigers never did so ill,
Nor dares the lioness her young whelps kill.
But tender damsels do it, though with pain;
Oft dies she who her paunch-wrapped child hath slain;
She dies, and with loose hairs to grave is sent.
And whoe'er see her worthily lament.
But in the air let these words come to naught,
And my presages of no weight be thought.
Forgive her, gracious gods, this one delict,
And on the next fault punishment inflict."

CLINICAL MISTAKES IN GYNECOLOGIC DIAGNOSIS*

ROLAND E. SKEEL, M. D., Los Angeles.

Science is defined as exact classified knowledge, and art as the application of scientific principles. It is with the conviction that we are losing much in the Art of Medicine through focusing too strongly on the results of the tremendous development of medical science that this short paper is presented for discussion, and to this end, gynecologic diagnosis has been selected in preference to the diagnosis of other abdominal and pelvic diseases, because the most vivid illustrations of the type of mistake which we have in mind are found in the former.

Similar mistakes in diagnosis and in treatment, based upon an erroneous assumption of the relation between the disease process and the symptoms presented, are to be found when the stomach, gall bladder, appendix or colon are suspected, but for various reasons these are not so common as in the gynecologic field.

It is perhaps true that gynecologic diagnosis is less susceptible of pre-operative laboratory confirmation than the others mentioned, but ocular inspection and bi-manual palpation give such direct access to the female pelvic organs that gross mistakes as to the pathologic condition are relatively infrequent. Such as do occur may often be laid to an incorrect history given by the patient, who denies a previous pregnancy, deliberately lies about her menstrual history, or consciously or unconsciously denies all symptoms pointing to an old gonorrheal infection.

At other times inadequate examination or imperfect knowledge leads to the treatment of pruritus vulvae without examination of the urine, the assumption that leucorrhea is due to chronic corporeal endometritis or that intermenstrual spotting is of no particular significance. These are matters of common elementary knowledge and do not come within the scope of the present discussion.

It is a less tangible subject that we wish to discuss, viz., our mistakes in diagnosing the relationship between the objective signs of disease or abnormality and the subjective symptoms of which the patient complains, and the best line of approach may be to question why patients consult the physician, and how pelvic abnormalities happen to be discovered.

It is evident that the routine physical examination to which the general physician, general surgeon, urologist or gynecologist submits his patient may bring these to light, and a correct estimate of their bearing upon the patient's subjective symptoms is of great importance if she is to be relieved of her discomfort.

On the other hand, the patient may present herself because of some obvious physical sign such as an enlarging abdomen, a protruding mass at the vulva, or a vaginal discharge, or she may be the victim of local pain which she attributes to disease of her generative organs.

On his part the examiner may discover a lesion, like early cancer of the cervix or true ovarian cystadenoma, which, left to itself, is necessarily fatal, and in such an event his course is plain, regardless of the character of the subjective symptoms or even their entire absence.

He may discover other lesions, such as prolapsus uteri, symptomless fibroids, pyosalpinx, or gonorrheal endo-cervicitis, none of which necessarily or even frequently jeopardizes life, but any of which do endanger the future health; or he may find any one of an array of minor deviations from the normal, and associated with them a great variety of symptoms, pelvic pain, backache, headache, dysmenorrhea, "nervousness," etc., which may be, but more frequently are not, in any way referable to the pelvic lesion which the examination reveals.

It has been considered axiomatic that successful treatment depends upon a correct diagnosis, but we hold it more nearly true that successful treatment depends upon that accuracy of prognosis which follows a *complete* diagnosis. Thus the treatment for carcinoma of the cervix is dependent upon the stage which the disease has reached when the diagnosis is made, rather than the fact that cancer exists. Opinions might differ as to whether an individual patient should be operated upon, be subjected to radio-therapy, or left without radical treatment, all in accordance with the knowledge and previous experience of the physician consulted, but the ultimate factor governing his advice would be an estimate of the prognosis either with or without treatment, so that an absolute mistake in diagnosis might be of no more serious import to the patient than an imperfect opinion of the outcome under any one of the various forms of treatment possible. However, in such a necessarily fatal disease the subjective symptoms of the patient are of no consequence; it is the disease only which counts, and symptoms can be ignored.

It is somewhat different in those pelvic disorders which infrequently jeopardize life but do menace the health, and it demands a most thorough and accurate study of the patient as a whole to be able to make a complete diagnosis and suggest the line of treatment to pursue. Two patients recently have come under my observation who illustrate the damage which follows hasty, ill-advised or illogical treatment. One woman of thirty had suffered a panhysterectomy five years previously for no better reason than that a deep laceration of the cervix might lead to cancer, and another of sixty submitted to a hysterectomy for a symptomless fibroid nodule no larger than a cherry. A third patient died in consequence of an operation for peritoneal adhesions which, even though they existed, were symptomless.

All of these reveal a correct pathologic diagnosis, but an utterly false clinical diagnosis, which was based upon an erroneous conception of the prognosis of cervical lacerations, uterine fibroids and intra-peritoneal adhesions per se. All of these are potentially serious, but under the circumstances, and with no symptoms that would justify interference, not one approached in gravity the operation which was performed for its relief.

* Read before the Section on Obstetrics and Gynecology of the Medical Society of California at Yosemite National Park May 15, 1922.

Aside from the injustice of major operations for minor difficulties another phase must be taken into consideration. Without a doubt more than one patient with a similar lesion was likewise advised that an operation was necessary, refused surgical interference, and has continued to live a comfortable, happy life under the guidance of one of the devotees of the anti-medical cults, to the discredit of medicine as a whole and surgery in particular. Now neither medicine nor surgery has reached the accuracy of deduction of an exact science, and human fallibility alone is productive of enough legitimate errors in diagnosis and prognosis without having our art overloaded by clinical mistakes of this particular type.

If care is necessary in order to avoid these mistakes, it is even more so in such conditions as minor injuries to the pelvic floor, ordinary cervical lacerations in young women, and the whole gamut of malpositions of the uterus. A great number of malpositions associated with pelvic discomfort, backache, dysmenorrhea, and irregular menstruation, occur in women whose bodily form and mental reactions point unerringly to poor development, while in others the symptomatology presented is so inconsistent and broadcast, as it were, as to make it apparent at first sight that the trifling gynecologic lesion means nothing more than that such lesion happens to be present in a psychasthenic or neurasthenic woman. Picking the history apart and delving into the private lives of these individuals is much more likely to give a clue to the proper treatment than jumping to the conclusion that the pelvic abnormality is responsible for the symptoms, and proceeding at once to dilate the cervix or shorten the round ligaments.

It is not intended to convey the opinion that a cervix never requires dilatation or a uterus reposition and support. If a cervix does require dilatation it is because the symptoms which exist are unequivocally those of obstruction, and if temporary replacement of a retroverted uterus overcomes the patient's local discomfort so definitely that the result cannot be attributed to mental suggestion, that uterus should be provided with some form of permanent support.

Local treatment for its suggestive effect may on occasions be perfectly legitimate, but as a general rule the result of fixing an abnormally introspective mind on a reasonably healthy set of pelvic organs is so disastrous that it should be undertaken with the greatest circumspection.

Honest mistakes of the kind we are discussing seem to me to arise from a number of sources and to be avoidable to a great extent. Many of them, no doubt, are an inheritance from the days when gynecology was in its infancy and a woman was regarded as only "an organism around a womb." Others arise from the fact that so many superficially educated, so-called cultured, people are entirely devoid of a commonsense knowledge of their bodies, and are superstitious to the last degree concerning them. Even in this advanced scientific age many are not willing to grant us as much time to investigate the extremely complicated human machine as they would give a garage mechanic to find why their motor had ceased to function. On our side we dislike having even the stupidest patient think we are less smart than our colleague whom they will consult when convinced that care in arriving at conclusions on our part means incompetence — hence we make a snap diagnosis.

Among the minor matters that contribute to our failure accurately to estimate the factors (the so-called imponderables) we cannot fathom by our senses and instruments of precision, is the necessary one of history taking. I defy the man who asks questions and writes, writes and asks questions, to show as broad an insight into the patient's condition as the one who merely asks his questions without writing. This may seem trivial, but it has appealed so strongly to me that in any obscure case, if I must take the history myself the diagnosis is deferred to a later date, when I can refer to the history, and quiz without writing.

Intensive and narrow specialism is another reason for these clinical mistakes. *Specialism* is responsible for many of the most important advances in medical knowledge, but *specialists* are unsafe guides unless they have the proper fundamental groundwork, and a broad experience in medicine and surgery as a whole. The ideal specialist is said to be one who knows as much about every part of the body as any one, and more about that in which he specializes. This ideal of course is impossible of attainment, but I am inclined to think that it is most nearly approached by one who is driven into his line of work by an unconscious fitness which makes him study his subject until he knows it so well that his colleagues give him no time to practice anything else.

In any event, such a specialist is not likely to attribute occipital headache to a prolapsed ovary, left-sided inframammary pain to salpingitis, or a burning sensation in the abdomen to endometritis.

Last, I think many of our mistakes in this field have arisen because of the enormous strides made in laboratory diagnosis. Both in this and the preceding subject of specialism, the complaint is, not that they themselves are deserving of criticism, but that certain undesirable by-products have been thrown off during their generation and development. The laboratory does not concern itself with individuals but with fluids and tissues, their abnormality or otherwise. It is concerned with material and physical findings, not with the reactions of the brain to the multiplicity of sensations which reach it from all the sense organs and sensory endings in the body. Hence while the laboratory is a guide to the diagnosis of disease, it is of little or no assistance in explaining the symptoms produced by disease, or the symptoms which may exist entirely independent of any disease diagnosable by laboratory methods.

It may be sufficiently accurate to consider one gynecologic patient as a *case* of gonorrhea, another as a *case* of cancer, and still another as a *case* of ovarian tumor, because in these the pathologic process mentioned is the predominant factor. It is, however, a gross mistake to attempt to solve the trouble equation by the same formula when an unmarried woman, below weight, with a long, narrow thorax and descent of all her abdominal

viscera, presents herself with spasmodic dysmenorrhea and is found to have a small ante-flexed uterus; or, when the woman of thirty, who has suddenly grown stout, wishes to know why her menses are irregularly late and scanty, and her uterus is discovered to be atrophic.

These are not *cases* of uterine anteflexion, infantile uterus, or hyper-involution; in fact, they are not gynecologic cases of any sort, but purely the local results, one of general maldevelopment, the other of thyroid dysfunction.

One might mention patients of another type like the multipara who has borne and nursed three or four children in as many years, who has small cervical and perineal lacerations, and complains of backache and general weakness, who is not a *case* of lacerations but a woman who has been chained to her domestic duties, has exhausted herself by attention to her children, and has a holy and well-grounded fear that respect for her contracted marital relations will lead to more babies, more work, more nursing and more expense. Repair of her injuries may help her temporarily because she is given a cathartic, put to bed and subjected to an entire change of surroundings, but the treatment is based upon an erroneous diagnosis nevertheless.

What we have been endeavoring to arrive at is difficult to put in words both exactly and precisely, but perhaps we can best summarize it by repeating that there are a very limited number of gynecologic diseases in which the pathologic and clinical diagnoses run parallel, and in them we make but few mistakes. These are exemplified by carcinoma of the uterus and ovarian cystadenoma.

There are a number of others in which the pathologic process is plain, but its effect upon the patient's present or future health much less certain, and in their presence we blunder unless the relation is most carefully considered; and there are a host of minor deviations from the normal in which the relation between the trivial pelvic pathology and the patient's symptoms are problematic to say the least, and in which treatment based on gynecologic diagnosis more often fails than otherwise, because we focus our attention upon the disease and completely overlook the patient.

There is a medical science and a science of medicine, but as yet very little exact classified knowledge of symptomatology; hence our gross mistakes when we operate for pathology and overlook the patient, mistakes which the cults who cannot operate never make, therefore their widespread popularity among those who are looking for relief from their discomfort and care not at all if they are carrying some organ whose condition or position does not conform to our ideals of a theoretic normal.

DISCUSSION

James Percy, San Diego—I only want to discuss one phase of Dr. Skeel's paper and I am so glad he touched upon it because it is the phase that pertains to not only the gynecological practice but all types of practice. One fact so often overlooked in the practice of medicine is the neurological side, the functional side of our patients. I presume it is true that 75 per cent of the women, speaking of them now only, that come into the doctor's office, are so-called neurotics, and unfortunately, I don't care in what specialty it is, the specialist whose office that particular woman goes into is almost bound to do only for her the thing that he has developed and that he knows as his specialty. In other words, the patient as an individual is entirely overlooked, a point so well brought out by Dr. Skeel when he used that phrase "narrow specialism." I don't want to think that anv of us are dishonest, but I sometimes see things that make me wonder if we are dishonest, but I think we are either dishonest or grossly ignorant. If we are ignorant in medicine, then we are dishonest. Just think of the number of women who are operated upon and promised relief from some minor things, as the essayist brought out, and then are turned loose and do fine for a couple of weeks while they are wearing out the experience they have had incident to the rest in the hospital, and later come back with all the old symptoms. The next thing we hear is that they have gone to someone else and gotten into the hands of some other specialist and the same thing is repeated.

It is essential to inquire into the early history because of its importance in bringing out the underlying factors of the malady. It is so easy for us to ask questions on the matters that we are most interested in and leave out everything else.

Recently I saw one of the most beautiful records of a highly trained gastro-enterologist. It was a work of art and he wrote it himself on the typewriter, things emphasized with red ink and yet no one had looked into the patient's mouth. You could move every tooth, they were all dripping with pus.

I never believe any word that any patient tells me in describing certain symptoms until I can absolutely convince myself that she is telling the truth because I have seen too many of these women cured by the osteopath, when, in fact, the neurotic element was the sole pathology.

There is little to say in closing; but, like Dr. Percy, I have been tremendously impressed, especially since coming out here, with the danger which the whole medical profession is resting under. I know it is not so grave in the East, but even there the risk it is running from the incursions of every variety of cult is apparent. The strenuous struggle which the profession here is making to keep its head above water has also impressed me, but it is apparent that the profession itself is to blame for many of the evils with which it is confronted. We fail in our methods of handling these minor disorders and swell up with pride over a hysterectomy or some other spectacular operation, but completely forget about the half dozen or so women on whom we have done a curettage or repair of the cervix who return with exactly the same complaints as before. Objectively they may be well, but subjectively they are just where they were before we operated; hence this plea for more accurate clinical diagnosis.

The Difference—Physicians are often criticized for not taking their patients into their confidence, while it is stated that the popularity of the chiropractor is due to his perfect frankness in this regard; from which it would appear that the difference between the physician and chiropractor is that the physician knows what is wrong with the patient but won't tell, while the chiropractor doesn't know what is wrong, but is glad to tell it.—Bulletin of Cleveland Academy of Medicine.

THE MODERN TREATMENT OF THE WEAK OR FLAT-FOOT *

By G. J. McCHESNEY, San Francisco

The subject of arch strain is old and trite, and consequently neglected far too much nowadays in orthopedic literature. With the exception of an article on felt arch supports in the last number of the Journal of Bone and Joint Diseases there has been nothing for a year at least. And this is not because cases of arch strain are becoming infrequent. In the practice of most orthopedic surgeons, as well as in my own, the problem of arch strain and arch support is twenty-five to fifty per cent of the total. Neither does this scarcity of the literature mean that the profession is a unit as regards methods of procedure. The varying types of metal arch supports, as well as those of leather, felt, or what not, compete for our favor with various modifications of heels, shoes, etc. The patient, as a result, goes from one to another device with little satisfaction or relief.

My excuse for reading this paper is to present a plea for a return to physiological and natural methods of treatment. Simplicity is allied to efficiency, but this is too often lost sight of in treating the pronated or weak foot. The symptoms of these conditions are too familiar to require repetition, but let us review facts concerning the anatomy which we all know very well but too often fail to keep in mind.

The internal longitudinal arch of the foot is composed of the inner three metatarsal bones, the three cuneiform bones, the scaphoid, astragalus and os calcis. They are so arranged as to form a curve convexity upward, and highest on the inner side. The summit of this arch or dome is formed by the head of the astragalus, resting upon the calcaneo-scaphoid ligament. This ligament is also called the spring ligament, on account of its numerous elastic fibres, and here lies the burden of my song. The function of the internal longitudinal arch is primarily that of a spring to provide spring and elasticity to the gait, to ease the jar of the impact of the body weight against the ground, but not to bear the whole body weight all the time. The arch, then, is a spring in its action, is the shape of a long automobile spring, and when causing pain due to overstrain from overweighting, should be treated along mechanical rules applied in treating overweighted springs, and nothing else. Does a mechanic in treating a weak or overstrained auto spring put a prop or support in its middle? This would be foolish, for thereby all spring action or function would be nullified. The same rule applies to our use of so-called arch supports. They destroy the spring action of the arch and hence their use is inherently vicious, as no part of our body can be considered as healthy if not performing the function for which Nature intended it. In addition, a deleterious pressure is exerted upon the short flexor muscles and plantar fascia, and causes a pressure atrophy of these structures which retards a return to normal function after this pressure is removed.

The other well-known disadvantage of arch supports I'll not dwell upon—their cumbersomeness, weight, cutting of shoes, etc.

If, then, we should not support our arches by a central prop, what is best to do? To return to our mechanical engineering simile, the first measure is to remove our load or a large part of it; the second is to strengthen the elements of the arch itself, not prop it up. To remove the load, I insist on two things, first, proper posture; second, raised inner sides of shoes. In almost all cases of arch strain, the line of weight passes down the tibiae to the inner sides of the feet. Usually it can be demonstrated to the patient standing, and also to the friends or relatives observing from the rear, that the line of weight passes down to the inner side of the everted os calcis. If the os calcis is everted, the rest of the foot is everted, as it is an axiom in orthopedics that the way the os calcis goes the rest of the foot goes. This, then, means that the greater part of the body weight is upon the inner side of the foot, or the internal longitudinal arch, instead of upon the external longitudinal arch or outer side of the foot, which is almost flat, and is intended to bear the bulk of the weight, leaving the internal longitudinal arch free for its function of a spring. This latter result can be partially brought about by insisting upon the proper posture, i. e. by standing and walking with the feet parallel and not toed out, Charlie Chaplin style, as we have been taught to do by our mothers, teachers, dancing-school teachers, military instructors, etc., from time immemorial. In addition, high-laced shoes, not Oxfords, with the inner sides of soles and heels raised one-quarter inch in average, and three-eighths of an inch in severe cases, are ordered. It is my practice to measure and inspect these alterations myself before the shoes are worn, as cobblers are careless and have to be checked up at all times. The shoes are then tried on and the line of weight-bearing through the foot to the ground again noted, especially from the rear through the os calcis.

These simple measures are usually sufficient to remove the principal load from the overstrained arch. The fault has often been committed of not building up the shoes enough. Very rarely is one-eighth of an inch raise enough. I find one-quarter inch not too much even for children where it is a routine measure, and three-eighths is often necessary in severe cases in adults. Some strain of the peroneal tendons or the external lateral ligament of the ankle-joint may be felt for a few days, but soon disappears. It rarely requires adhesive strapping.

The second mechanical or engineering measure employed is the strengthening of the arch components; which here means exercise to strengthen the muscles and ligaments that hold up the arch. The following are two simple exercises: First, inverting the feet while standing, or balancing upon the outer edges of the feet; and second, rising upon the toes and then slowly coming down upon the outer edges of the feet to the outer edges of the heels. These exercises should be done as often as possible or practicable, and it is always emphasized

* Read before the Section on Orthopedic Surgery of the California Medical Association in Yosemite National Park, May 17, 1922.

that upon the faithfulness with which these exercises are done depends the speed of the cure and the cessation of the need for building up the shoes. There are no new features about these exercises. They are designed, of course, to strengthen principally the Tibialis Anticus and Posticus muscles, which we must agree are the ones principally involved, especially the latter, which exerts a direct upward pull upon the head of the astragalus. As the muscles of the foot are designed to do their principal work while the individual is walking or standing, exercises are of the most value while in the weight-bearing position, and exercises while sitting do not give the arch-supporting muscles enough to do. This is an important point, and explains why exercises while sitting often do little good and, in fact, may tire the legs excessively from the unnatural work the muscles are called upon to do.

With these simple measures immediate relief is afforded to all but the most acute cases of arch strain, and these are really better off in bed till the acute symptoms subside. Arch supports may get them up a little sooner, but far from cured. In fact, the chief mistake in the use of plates, aside from the using of them at all, is the wearing of them far too long. Instead of being provided as a very temporary appliance and to be supplanted by other measures as soon as possible, they are put on as a permanent curative device and no time limit set upon their use. Consequently very soon the patient finds out for himself that he is just as comfortable without arch supports as with them, and not really comfortable in either case—hence not cured.

The softer the material used, the less the discomfort and damage to the arch-supporting structures, but the same inherent objection applies to all, i. e. they do not tend to restore to the arch its proper function, that of a spring. Hence they are not a bit curative and only sometimes palliative.

I have found that this method of treatment applies to the very young as well as to the adult, but sometimes the advanced in years, with arthritis, will not tolerate a changed line of weight-bearing and are better off with soft pads under the arch to distribute the weight on the tender feet, and any idea of restoring the spring action of the arch hardly advisable on account of the age of the patient.

In injuries to the feet especially it is important to strive at all times for a restoration of proper function. In Potts fracture especially, and in all non-ankylosing fractures about the ankle-joint or in the tarsus, the foot should be put up in supination in the splint; that is, in the very position I have been trying to prove is the best one for a weak foot. When the splint is removed, why put a hard metal support under the tenderest and weakest part of the foot, with no provision for removing most of the weight by simply continuing the supinated position in shoes built up usually three-eighths of an inch? The fear that the arch will be strained if no support is put under it is quite groundless if this simple precaution is taken, supplemented, of course, by voluntary exercises along the lines previously described.

In all foot and ankle fractures, where no ankylosis is a result, I have obtained very easily return of function by these measures, and if in these very exaggerated cases of weak foot no so-called arch-supports are needed, why should they be needed in the milder, non-traumatic cases, even though of longer duration?

Of course, cases with a spastic element, peroneal or otherwise, cases of hollow or claw foot, rigid feet, and cases of trouble in the anterior arch so-called, can be included as suitable for this treatment as a secondary measure. I insist on no especial type of shoe, so long as they are high laced, not pointed toes, and have nothing higher than a Cuban or military heel. The more sensible the shoe the quicker the relief goes without saying.

In conclusion, I wish to emphasize that there is nothing new or original in this treatment; it is known to all orthopedic surgeons as well as the principles upon which the treatment is based. But it is all too much neglected, and in its stead there is used too much an elaborate scheme of plaster molds, upon which metal plates are fashioned, to be later modified by hammering, tempering, etc.

Let us get back to simpler methods based upon physiological principles even if our patients make us fewer visits and our pocketbooks suffer thereby.

White Flour—At last public attention is beginning to be focussed upon the shortcomings of white flour. Physicians have known for many years that the excessive grinding, bolting and bleaching processes necessary to secure the beautiful and much advertised white flour, detract very materially from the food value of the final product. However, the propaganda of manufacturers as to the beauties and fluffiness of such flour, as well as the various flour products, has been quite effective in "educating" the public to demand these products. The pendulum is now beginning to swing and the public is getting interested in knowing the facts. Manufacturers of white flour may be expected shortly to launch another "educational" campaign of the kind that creates a desire for white flour or they will be compelled to change machinery and methods and make more of a much better quality of flour.

The New York City Board of Health has recently changed their sanitary code by amendments as follows:

RESOLVED, That Article 9 of the Sanitary Code be amended by adding thereto two new sections to be numbered 141 A and 141 B, to read as follows:

Section 141 A. Bleached flour to be conspicuously marked or labeled. No flour, to which oxides of nitrogen, or nitrous acid, or nitrates, or cholorine, or any other chemical bleaching agent has been added, shall be brought into, or held, kept, sold, or offered for sale in the City of New York, unless the package or container shall be legibly and conspicously marked or labeled with the words "Bleached with.....(giving the name of the bleaching agent used). . . .

Section 141 B. Bleached flour products intended for human consumption to be conspicuously marked or labeled. No product intended for human consumption shall be brought into, or held, kept, sold, or offered for sale in the City of New York, which is made from flour to which oxides of nitrogen, or nitrous acid, or nitrates, or chlorine, or any other chemical bleaching agent, unless the product is legibly and conspicuously labeled or marked with the words "Made from flour bleached with....." (giving the name of the bleaching agent used).

16	*NO. 16. Chiropractic Anti-Health Initiative.* Creates Special State Board composed exclusively of Chiropractors, as special favor to unlicensed Chiropractors, who refuse to take State Examinations provided by present laws of California; grants members of Chiropractic Board power to license themselves, without any examination—upon payment of $25.00, and then issue licenses to reciprocal allies upon similar generous terms. Neglects to define chiropractic but practically presents licenses to unexamined persons to practice this undefined method of treating diseases; destroys value of public health statistics by permitting grammer school graduates of so-called chiropractic "colleges" to report on infectious and contagious diseases and sign death certificates. Vote "NO."	Yes	
		No	X

More Education, Not More Boards

The pernicious Chiropractic measure has been rejected by the California Legislature five times and by the sound sense of the people at two previous elections.

Osteopathic-Chiropractic-Anti-vivisection campaign literature would mislead the uninformed into believing that this is a contest between competitive schools of healing. It is a contest between education and ignorance; between creating irresponsible Boards for the special exemption of special groups or maintaining one Responsible Board to insure competent and impartial administration of the law for the protection of the public.

California has a competent Board of Examiners created by law, charged with the duty of determining by impartial examination the qualifications of all applicants, including chiropractors and osteopaths, who desire to treat diseases, injuries, deformities, physical or mental afflictions of human beings. Examinations are necessary to safeguard the lives and health of the people from incompetents, impostors and quacks. Citizens have the right to expect that anyone the State licenses shall possess a certain amount of knowledge of the causes and courses of diseases and the complex functions of the intricate human machine.

Examinations are open to all qualified applicants. Chiropractors have taken and have passed the examination and are now legally licensed and practicing in California. Any chiropractor who can meet the reasonable requirements of the present State law and pass a 75 per cent examination can receive a license.

To create a new Board for the special benefit of those who are unable or unwilling to take the State examinations is to approve ignorance and license lawlessness.

To create two Boards to do what one Board is doing effectively and economically is extravagant legislation.

Chiropractors and osteopaths constitute only two of the twenty-seven drugless cults of California. If a new Board is created for chiropractors and another new Board for osteopaths it is obvious that the other twenty-five drugless cults are equally entitled to Special Boards. This would result in a chaotic condition constantly menacing the public health.

The California Legislature at five different sessions carefully investigated and considered chiropractic demands for a new Board based upon charges that the present Board of Medical Examiners is incompetent and unfair. Each time the chiropractic charges were found untrue, and the Chiropractic bill was consequently rejected five times as without merit.

Insurance companies, industrial accident commissions, railroad companies, great industrial plants, the Army and Navy, fraternal organizations, who are intelligently interested in protecting the health of their working forces, would release educated physicians and surgeons and place chiropractors in full charge of their medical, surgical hospital service—if—chiropractors had any substantial part of the merit proclaimed in their campaign literature.

The law governing the Board of Medical Examiners has been upheld by our Courts as valid, reasonable and enforceable without one dissenting opinion. The present Board is impartial and able. If the present Board becomes incompetent or unfair the Governor has authority to select a new Board. The courts can review and reverse the Board's decisions. Such a well-selected, responsible Board assures all applicants of impartial and competent consideration and assures the people of California adequate protection.

Vote "NO" on Anti-Health Initiatives Nos. 16, 20, 28.

WHAT THE GENERAL PRACTITIONER CAN DO TO IMPROVE MATERNITY CONDITIONS IN CALIFORNIA

By R. KNIGHT SMITH, M. D.

Statistics have been compiled showing that the care given pregnant women in the United States is below that of some sixteen other nations, as shown by morbidity and mortality rates. How correct these figures are I personally cannot say, although I have the impression, and it is only an impression, that they fall short of rather than exaggerate the conditions that actually exist. However, assuming that the obstetrical care in the United States is markedly below that given in other countries, at whose door does the responsibility lie? The obstetric specialist—the general practitioner—the midwife—or the patient?

I have had a survey of the birth registrations for the year 1921 in the City and County of San Francisco made, submitting the names of all doctors who work in obstetrics and gynecology, either in whole or in part, and who otherwise do not have a general practice, and the following figures have been obtained.

Total number of birth certificates examined	9311
Signed by above-named obstetricians	1343, or 14.4%
Signed by general practitioners	7063, or 75.9%
Signed by midwives	905, or 9.7%

The Bureau of Child Hygiene, replying to a request for information regarding the situation at large in California, reports that of 1000 cases taken at random at Children's Conferences throughout the State there were 829 attended by physicians; 43 by midwives; 2 by nurses; 25 by untrained individuals and 1 unattended.

From these figures I think you will agree with me that the major responsibility with obstetrical care rests upon the general practitioner of medicine. A little less perhaps in the centers of population than in the rural districts. In California the midwife is almost a negligible question, except in the cities, and even there it does not amount to more than 10 per cent.

With this question answered in the affirmative, namely, that the need of improving maternity conditions does exist and that the general practitioner is responsible for the care of at least 75 per cent of the cases in our centers of population to 95 per cent in the rural districts, the next question is what means are being used or could be used to meet the situation? I think this question can best be answered under the following headings:

1. *Educational*—
   - (a) Primary or obligatory medical instruction;
   - (b) Secondary post-graduate or non-obligatory medical education;
   - (c) Education of the patient.

(1a) Primary medical educational facilities have progressively advanced in efficiency during the past generation. The primary educational requirements, the preliminary course of study, the limitation of the number of students, the advance in laboratory methods, the increase of clinical material with the added fifth year of interne service before graduation, have given the public better educated medical service than it ever had from corresponding classes in the past.

(1b) Secondary non-obligatory or post-graduate instruction is desired by the vast majority of general practitioners, but the opportunity for receiving such instruction is not so easily obtained as it ought to be. Much good would be accomplished if it were possible to make short, intense, special courses available for the general practitioner throughout the State, and I look to the so-called extension courses in our Universities as a partial solution of this problem.

(1c) Education of the patient: I am of the opinion that there is no part of our physiology about which there are so many old wives' tales and ignorance on the part of the public as there is about the reproductive functions. On only one phase of this subject has the public a clear idea, and that is with regard to childbed fever. They are definitely sure that a rise of temperature post-partum is an infection, and that it is always caused by the medical attendant, and he is consequently severely criticized when such an event occurs without any regard to its real cause.

During the past two decades the feminist movement has surged rapidly forward and coincident with its development there has been a corresponding increase in the spread of information regarding prenatal care of the pregnant woman, and postnatal care of the child, as evidenced by the growth of popular literature on prenatal care, official and non-official, that is being distributed mainly through the American Child Hygiene Association and the establishment of child hygiene centers by this or similar associations, partly or wholly directed by the efforts of State Health authorities.

The entire nation has been committed to a five years experiment in the so-called Shepard-Towner Act, which commits the National Government to the contribution of a sum of money to each of the States that raises a similar sum to be expended in the studying and spread of information of these two subjects. It would seem almost useless to argue that any means that will increase the knowledge of the people on this subject ought to be employed, but John Fiske, in his admirable history of "The Beginning of New England States," says in effect that there is no danger of our re-establishing a King in this country because men's minds are on guard against it, but there are many forms of autocracy which are just as dangerous to the liberties of the people as a monarchy, and we must be most careful to avoid creating an agency which would tend to undermine either directly or indirectly our form of government, and in my opinion State medicine would do it. Therefore, it behooves us as medical men to see that this movement, instituted as an educational one, shall continue to be educational and not administrative.

2. *Individual Effort*—Cragin, in pointing out the disagreeable side of obstetrical practice, says: "And yet no one should engage in this line of work and no one deserves success in it who is

not willing to respond at once to the call of the woman who has entrusted herself to his care, as it carries with it greater moral obligations on the part of the latter to be loyal to her in every way than do any other engagements in medicine," and to which I add "Amen." In other words, he who engages in obstetric work should have the spirit of service beyond that of any other part of medical life.

I believe the first consideration of this individual effort by the general practitioner should be the organization of his work so that he would be sure to give adequate service to the prospective mothers who place themselves under his direction expecting proper care. The important phase of this organization is first, the spirit to do good work on the part of the medical man—and no amount of training will do any good if the spirit of service is absent. The outward manifestation of it is evidenced by the arrangement and equipment of his place of business (his office) so that his patients will have the opportunity to consult him largely at their own convenience, getting information and direction regarding their condition and its care, the preparation necessary for surrounding the delivery of the patient in her home with sterile conditions, together with the recording of the patient's history and laboratory findings, so important as an impetus to do good work and as self-protection against liability suits.

These things are so fundamental that no matter how small the community they should be carried out because inadequate service is the parent of inadequate pay for this class of cases, and inadequate compensation is largely the reason why the medical profession as a whole looks on this, the most important phase of medical life, as a drudgery which has to be borne to retain the medical work of the family group.

I feel that more attention to medical economics should be given during the period of obligatory medical study in the attempt to keep the young medical man from groping about first one way and then the other before he finds the best methods of caring for his patients.

Having supervised the patient during her pregnancy to term and the problems of the actual delivery at hand, how is the general practitioner to best meet and answer them?

With proper medical equipment and supervision of the pregnancy, the questions are already largely solved by prevention of some complications and providing the "how" to accomplish the desired results when it is determined what to do and when to do it. Just here, by way of parenthesis, may I lay stress on one or two things which have seemed beneficial to my patients during their pregnancy: (1) the limitation of the amount of, particularly, the higher proteid foods, and such vegetables as are followed by the excretion of calcium oxalate crystals in the urine; (2) testing for the reaction of the urine with methyl red solution as suggested by Dr. Martin Fisher several years ago, followed by the use of alkalies when the reaction is acid to that reagent; and (3) the avoidance of over-exertion during pregnancy.

It has seemed to me that these suggestions have given my patients a little less discomfort than they otherwise would have had, and the incidence of toxemia in my private practice has been about one-third the average quoted in our text books.

The phenomena which we call "parturition" is an orderly sequence of occurrences taking place within a more or less elastic limit of time, and any very considerable deviation from the general average is abnormal and likely to be attended by untoward results for either mother or child, or both, whether the labor be too rapid or too slow.

It is difficult to realize that in a physiological function like labor that some kind of operative procedure is necessary to assist delivery of the child in one case out of every four, and it is in the interests of the patient, and reflexly of her medical attendant, to abstain from exposing her to the risk of infection, particularly by the use of vaginal examination and manipulation. Under no condition in a normal labor should one be made prior to the time when the presenting part has passed the pelvic brim, for the reason that if the presenting part does not pass through the pelvic brim delivery by the natural passages will not be accomplished without exposing the patient and her child to grave danger from injuries or infection, or both. In all presentations that fail to pass through the brim after the test of labor my personal preference is for the operation of Caesarian Section to that of forceps or version, giving as it does a lower risk to both mother and child, and where we have avoided infection by not making vaginal manipulation, the operation is attended by little danger.

The demand of the patient to be relieved of the pain of childbirth and our desire to ease the suffering of the patient is the foundation of much of the morbidity and mortality that the women of our country are affected by. The use of drugs, such as opium, twilight sleep, and anasthesia prolong labor and increase operative interference, which is inevitable and is followed by the increase of morbidity and mortality to both mother and child.

No more pernicious doctrine can be taught than that which converts the normal delivery into an operative one, whether incidental to the use of drugs or predetermined by the medical man to merely finish the job, for however skillful one may be they should remember that "boys flying kites haul in their white-winged birds, but you cannot do that when you are flying words," and be careful not to advocate operative means in normal cases because it is not in the interest of their patient, as any operation is followed occasionally by untoward results, and their example will be followed by unskillful men who will have more disastrous results for their patients, with consequent loss to the State in citizenship.

Sheppard-Towner Bill—When the Sheppard-Towner bill was under discussion in Congress it was opposed by the only woman member, Miss Alice Robertson, who said among other things that "it will not help the mothers of America one bit, but will give a lot of jobs for others in the bureaus at Washington."

OBSCURE REFLEX SYMPTOMS OF TEETH, TONSILS AND SINUSES, ESPECIALLY THE SINUSES.

By ROBERT B. SWEET, M. D., Long Beach.

Since the advent of the era of the study of focal infections we have learned to consider lesions of the teeth, tonsils and sinuses collectively. We have learned that they have a common bacteriology and that they can and do produce remote infections in almost any tissue or organ in the body. But there is a tendency to look for gross lesions. By the aid of transillumination and the X-ray we search for the darkened areas of the sinuses and the indications of apical lesions of the teeth, often failing to find the more obscure lesions which may not be revealed even by our modern mechanical methods. It is to these obscure lesions which produce marked and intense reflex pain that I wish to direct your attention. In taking up the consideration of the pains and aches produced by lesions of the teeth, tonsils and sinuses, we discover that we have to deal with the common innervations of these structures through the branches of the fifth nerve, which enables us to understand the intricate manner in which they are connected. It is not the aching, decayed tooth; the sinus discharging pus; the hypertrophied turbinates; the impinging deflected septum; or the bulging bullaethmoidalis, so easily discerned by the casual observation that gives us the greatest trouble. It is those obscure lesions which produce much pain that tax the diagnostic acumen of the modern specialist.

Of the familiar reflexes produced by the teeth we well know the facial neuralgias and the lancinating pains, often remote from the site of the offending member. The pains in the eye, the congested conjunctival vessels, the supraorbital pains and aches in and about the ear. The earache caused by an impacted third molar is not an infrequent occurrence.

In looking about for perhaps the most obscure lesion of the teeth producing the greatest amount of disturbance, I have selected the dental pulp nodules. Not being well enough informed upon this subject personally, I have abstracted an article by Norman and Johnson (New York Medical Journal, July 20, 1921), that this paper may be more comprehensive in its scope; and to bring to the attention of the eye, ear, nose and throat physicians this phase of fifth nerve disturbances that should be given consideration in our efforts to solve some of the perplexing problems incident to fifth nerve neuralgia.

Neuralgia, defined in its primary sense, means pain, or a painful sensation of a definite type, limited to the sensory distribution of a peripheral nerve, or nerves. This pain may be referred to the surface distribution of the affected nerve, pressure on the areas of which causes a typical but not severe pain, which we are pleased to term neuralgic in character. In treating the neuralgias, our therapeutic resources are directed to a temporary or permanent relief of the chief symptom, pain. The causes of trigeminal neuralgia are many, and are mentioned for purposes of review as follows: The teeth play a predominant role, perhaps undergoing a constructive or destructive pathological change, or because of a constitutional defect in shape, position or development; affections of the gums, of the jaw bones, the cranial sinuses, and the mastoid, frequently produce neuralgias of the fifth nerve and associated neuralgias that are difficult to differentiate from a regional point of view; diseases of the eye, as iritis, cyclitis, iridocyclitis; diseases of the ear; constitutional diseases, as arteriosclerosis, malaria, anemias, diabetes mellitus (this disease being particularly prone to attack the teeth and gums), syphilis; the exogenous and endogenous intoxications; non-progressive convalescent states following acute infections and surgical procedure with pyogenic complications; the metabolic diseases with their associated endocrine disturbances; tumors of the Gasserian ganglion, of the brain, of bone in the adjacent vicinity or inflammation of the bony structures within the neighborhood of the nerve. Indeed, it may at times be the initial symptom of tabes dorsalis, and Oppenheim cites a case of multiple sclerosis beginning as a facial neuralgia. It is the purpose of this article to emphasize the necessity of excluding the presence of pulp nodules in apparently normal teeth, in all cases of intractable neuralgia, before one hopelessly resigns oneself to a state of helplessness in treating these cases. Pulp nodules in apparently sound and healthy teeth, with little or no reaction to the ordinary tests, are difficult of diagnosis. Pulp nodules, present in decaying teeth, are comparatively easy to detect, and their removal is but part of the operation, extraction or devitalization deemed necessary by the operator for that particular tooth.

Pulp Nodules—Pulp nodules are small masses of calcic material suspended in the pulp substance which, by reason of their progressive formation, effects a mechanical displacement to the point of strangulation, with resultant death of that tissue. They are commonly found in the bulb portion of the pulp, but may occur in the root portion, assuming a number of forms, those in the bulbar portion being round or nodular, while those in the root portion, are fusiform or spindle-shaped. They are more frequently mutiple than single, and it is believed that the larger nodules are formed by the coalescence of the smaller ones.

Symptomatology of Pulp Nodules—There appears to be no relationship between the frequency of occurrence of pulp nodules and the production of symptoms. They do not produce symptoms with any degree of consistency. They may be present and apparently do no harm, and, conversely, their presence may initiate an irritation of the terminal dental nerve filament because of mechanical pressure. It is a reasonable assumption that these nodules should produce symptoms in every case, but the converse is true in the majority of instances, paradoxical as it seems. This discrepancy between cause and effect may be accounted for by their slow formation, permitting the dental pulp to accommodate itself to the change within its tissue, without giving rise to symptoms. However, it appears that when the nodule or nodules become large enough to strangulate or obliterate the pulp tissue, symptoms are produced. The symptoms are the result of mechanical irritation, by the nodule or nodules, to the terminal nerve filament within the pulp tissue. Usually the local symptoms are hyperesthesias, not limited to the particular tooth or teeth affected, but affecting the pulps of all the teeth on that side of the dentures. Black has noted that general pulp hyperesthesia may be the precursor of an acute gouty or neuralgic attack. Unless the nodule or nodules are located and removed, continuous pain stimuli are transmitted by that branch of the fifth nerve supplying the affected tooth or teeth. It is known that if a sensory nerve transmits continuous pain stimuli, fatigue will result. Fatigue is the end result of biological changes, in nerve tissue, necessary for the performance of specific function. If fatigue is prolonged by reason of constant irritation (pain) to a terminal dental nerve filament, neuralgia of the main nerve

trunk results, with reflex neuralgic manifestations in its branches. This explains why the neuralgia does not disappear until some time after the local agent is removed. Time is necessary for a complete recuperation of the nerve itself.

So much for the teeth. As for the tonsils I have but passing comment to make. They have been given a great deal of consideration and their part in the production of pains and aches is quite generally understood. Probably the diagnosis of toxic neuritis covers the greater part of their etiological importance.

The sinuses constitute the most important and interesting division of the subject. I will not take time to enumerate the usual local pains about the antrum, the frontal headache, caused by acute sinusitis. The right maxillary sinusitis may manifest itself by a left supraorbital pain. The occipital and vertical pains and the pounding ears of an acute sphenoidal sinusitis are generally understood. In cases of acute sinusitis it is important not to be misled by the location of the pains, but the physician should seek by every method available to locate the offending sinus, and also make sure that it is only one, because several sinuses are frequently involved at the same time.

Your attention is directed to that class or type of sinus lesions which Sluder has classified in his book on "Headaches, and Eye Disorders of Nasal Origin." The cases showing small pathological changes but severe pain. Sluder's three classifications are the syndrome of nasal ganglion neurosis, vacuum frontal headaches, and hyperplastic sphenoiditis. Before I became acquainted with the contents of his book I was struck by the peculiar symptoms I had observed in a few cases that I had not remembered as being described in my text book. At least they did not correspond to the classical descriptions commonly taught. After becoming interested along this line I searched back through my records that I might ascertain how many of my cases I could place in this category. Of about four hundred cases of sinus trouble of which I had X-ray pictures and case records I was able to select only nine that I felt corresponded to one or the other of Sluder's classes. A clean-cut diagnosis of these conditions is not an easy task and usually the diagnosis is only confirmed by the results of the treatment. Take a case of recurrent intense headache extending over a long period of time often accompanied by vertigo and nausea; with the history of going to bed for three or four days, and finally resorting to a hypodermic of morphine for the relief of pain. When upon examination one finds the septum straight, the middle turbinate normal or slightly atrophied; no impinging areas; no pus or mucous or glarry secretion from any sinus, and transillumination and X-ray negative. And then upon opening of the nasal frontal duct have all the symptoms subside and the patient be relieved from that time on, one is warranted in making a diagnosis of vacuum frontal headaches.

Many of these patients have been seen by many specialists, who in the absence of any noticeable secretion have not made the diagnosis of sinusitis. Many of these patients have suffered for ten, twenty or even forty years and have been relieved by a single operation requiring less than twenty minutes' time. The cases of nasal ganglion neurosis and hyperplastic sphenoiditis are even more obscure, and no doubt if physicians were better trained in diagnosis and had more knowledge of the pathology of diseases of these areas, many more definitions describing more minutely these pathological lesions would be available.

I do not claim that ganglion neurosis and sphenoiditis are not caused by infection, or that they are always free from secretions. The point is that the secretion is not always in evidence. I have examined some patients time and again, finding the mucous membrane perfectly dry, but later on the tell-tale muco-purulent secretion would show up. I have always felt that the action of cocaine in shrinking the membrane acted not only to promote ventilation but also to facilitate the drainage of secretions. It is a fact also that the effect of negative suction or syphonage has had a most favorable effect upon these conditions. The Nichols nasal syphon used at home has a much better effect than the suction treatment in the office. After proper treatment the relief to these patients is so striking that it compensates for all the time and energy required to bring about favorable results.

CASE REPORTS

A man of 64 years of age had had headaches for the past eighteen years. He had consulted various specialists in several large cities, all of whom had suggested the possibility of sinus trouble but none had ever discovered enough evidence to warrant any operative procedure. He had had eight different prescriptions for glasses but was not wearing any of them. The attacks were periodic, occurring about every two weeks. They would begin with a slight dullness over the left eye, accompanied by gastric distress, nausea and ended usually in vomiting. He had long since given up hope of receiving any relief aside from opiates and a rest in bed for several days. His business was necessarily seriously interfered with. At no time during these attacks did he have any discharge from the nose. He was pale, his facial expression was distraught, thoroughly discouraged but willing to have anything done that would afford any hope of relief. He had two X-ray pictures that had been previously taken which showed nothing. But not being content with that I insisted on having another. This picture showed nothing. On examination the membranes of the nose were pale and slightly atrophic. The septum was straight. The middle turbinate hung free. There was no impingement, either against the septum or ethnoidal region. The bulla ethmoidallis was not prominent. There was no secretion, not even glarry mucous present, even after severe suction. The nasal frontal duct appeared patulous. Notwithstanding this lack of anything to warrant operative procedure, I proceeded to excenterate the anterior ethmoid cells, the aggernasi, at the first sitting. Much to my surprise no pus or mucous was discovered, and only the usual amount of bleeding. This was followed by a marked improvement in the symptoms. The patient became enthusiastic over the prospect of other results. After that, whenever he felt an attack of headache coming on, he would come in, and with a shrinking up of the parts with cocaine and a slight curretage of the cells he would get relief. I became suspicious that the effects were either psychic or due to the soothing effects of the cocaine. Consequently, I frequently omitted the

cocaine and used adrenalin instead, with almost but not quite the same effect. The recurrence of attacks became less and less frequent. About this time, however, after I had felt that I had been dealing with a dry sinus, I began to notice the presence of a thick mucous which would flow down after the treatment and with the aid of suction. The patient also would tell me that he would often expectorate mucous an hour or two after the treatment. This fact has led me to question the existence of the so-called dry sinusitis.

Woman, age 32, three years ago began with periodic headaches, which gradually increased in intensity until they became severe enough to put her to bed for a period from three or four days to a week. She had been thoroughly examined and given a variety of treatments, including milk diet and rest, endrocrines and glandular extracts. But to no avail. Her eyes had been refracted. Sinuses and teeth had been examined by the X-ray. The sinuses had been examined by several physicians and pronounced negative. The patient's headaches were accompanied by vertigo, nausea, and even periods of delirium, often requiring opiates for relief. During the interval between attacks she was perfectly well and comfortable. On examination the nasal passages were entirely free from any signs of secretion, congestion or impingement. The possibility of frontal vacuum sinusitis was considered and a frontal sinus opened, but to no avail. At a secondary sitting the ethmoids were opened. Still no results. Finally, the left middle turbinate was removed, and the sphenoidal atrium exposed to view. There was a very small opening, hardly large enough to admit of a small probe. The orafice, however, presented a puckered appearance. The sphenoid was opened and the atrium enlarged. No discharge followed. This resulted in modifying the severity of the next attack very remarkably. Since then the attacks have become much less frequent and much less severe, until it has been possible to keep them entirely under control by local treatment of cocaine to the atrium, which is prone to close even after free opening has been made with a punch. There has never been any evidence of mucous or pus.

CONCLUSIONS

In searching for the cause of reflex pains of the fifth nerve and its connections through the sphenopalatine ganglion we should consider the teeth, tonsils and sinuses collectively.

The most intense reflex disturbances are often found in patients where the smallest amount of pathological changes are present. The study of this subject suggests that there is still much to be learned about reflexes of the fifth nerve.

Fadism in Medicine—No doctor will be held guiltless who attempts to practice medicine without being familiar with, and willing to utilize, the various approved, auxiliary methods for making a diagnosis.

Likewise, no doctor will be held guiltless who allows his interest in, and enthusiasm for, one special trick to overshadow discretion and blind his perspective. As important as is the test-tube, microscope, and X-ray, a stubborn dependence on their findings alone would often be suicidal and homicidal.

Doctors are human, and it is a trait of humans everywhere to follow fads which often lead to extremes, but certainly no profession and no class of humans need, more than doctors, to sit steady in the boat and make haste slowly.—Editorial, Southern Medicine and Surgery, August, 1922.

PHLORIZIN GLYCOSURIA IN THE DIAGNOSIS OF PREGNANCY*

By MERRILL W. HOLLINGSWORTH, M. D.
(From the Johnston-Wickett Clinic, Anaheim, Calif.)

A review of the attempts to formulate some method of diagnosis of pregnancy by laboratory methods convinces that the necessity for such a test has been felt for some time. Although the menstrual history gives presumptive evidence of the existence or non-existence of pregnancy, we are all familiar with the occasional patient who menstruates several times after becoming pregnant, or even throughout the gestation period. The patient with a history of irregular menstruation before marriage presents an equally perplexing problem. And sometimes the question arises whether the diagnosis should be fibroids alone, pregnancy alone, or fibroids and pregnancy. In such cases a dependable test for pregnancy would be of inestimable value.

Bar and Ecalle, in 1919, named as reactions specific in pregnancy the complement deviation, Abderhalden's dialysis, and the intradermal reactions. To these may be added the epiphanin and cobra-venom reactions and the renal glycosuria, epinephrin glycosuria and phlorizin glycosuria tests.

The laboratory work on which this report is based is limited to the phlorizin glycosuria test, which, like the renal glycosuria and adrenalin glycosuria tests, depends on the occurrence of glycosuria during pregnancy, first noted by Blot, in 1856, later by Duncan, in 1882; the frequency of its occurrence is stated as 86 per cent by Hofbauer, 75 per cent by Payer, 5.75 per cent by Williams, 70 per cent by Stolper, 68 per cent by Berg, and 4 per cent by Cron. Klemperer, in 1896, suggested that the glycosuria of pregnancy may be due to a lowered permeability of the kidney for sugar. Hofbauer, in 1899, considered it due to functional derangement of the liver; in 1911, he undertook to prove this by tests of the liver function and histologic studies. Lenhartz, in 1908, stated that it is relatively harmless. Cristalli, noting that Schroder, Reichenstein, Falk and Hesky, and Bartels had reported a large percentage of levulosuria in pregnancy, supported Hofbauer's hypothesis, as did Sachs, Strauss, and Sebatowski. The investigations of Hynemann, Landsberg, and Heinrichsdorff, however, disproved Hofbauer's hypothesis. They showed that in cases of any derangement of the liver there is some degree of eclamptic toxemia. At this point in the history of the subject blood sugar determinations were applied to the problem. Benthin claimed that the blood sugar during pregnancy is normal or subnormal, a fact corroborated by Novak, Porges and Strisower, Frank, Jacobsen, Mann, and Bergsma. Reichenstein, and later Stolper, considered the glycosuria of pregnancy to be due to a disturbance of ovarian function. The latter undertook to prove his contention by animal experiments, in which he demonstrated that hypo-function

* Read before the Section on Obstetrics and Gynecology of the Medical Society of California, at Yosemite National Park, May 16, 1922.

of the ovaries is accompanied by a decreased glucose tolerance, and a hyper-function by an increased tolerance. Von Jaskch, Lanz, Hofbauer, and Payer showed that the glucose tolerance in pregnancy is lowered. Bergsma stated that the glycosuria of pregnancy is not dependent on any derangement of liver function, but upon a physiologic hyper-function of renal epithelium. Hirschfeld, in 1910, stated that glycosuria of pregnancy is not related to true diabetes mellitus, and Shirckauer, in 1912, pointed out the important differences between the two conditions. Caldwell and Bibbs suggested that the glycosuria of pregnancy may be due to a phlorizin-like substance circulating in the blood. Novak, Porges and Strisower, in 1913, showed that the glycosuria of pregnancy is due to an increased permeability of the kidney for sugar, glucose, lactose, and levulose, and is not accompanied by a rise in blood sugar. Their work eliminated the possibility of derangement of the liver and proved Klemperer's earlier theory.

Frank and Nothmann produced glycosuria in women two to three weeks pregnant by the ingestion of 100 gm. of pure glucose; specimens of urine were withdrawn every fifteen minutes and tested for sugar. In pregnant women sugar appeared in forty-five minutes and was slight, never more than 0.9 per cent. Blood sugar determinations were made before and during the test. The authors stated that in non-pregnant women the test is consistently negative. In thirty cases, pregnancy was demonstrated in the first three months. They concluded that it is sufficiently accurate to be applied to the diagnosis of early pregnancy. Nurnberger, in 1921, in a discussion of the results obtained by Frank and Nothmann, stated that the possibility of hepatic disease, thyroid intoxication and latent diabetes must be eliminated. He repeated the experiments of Frank and Nothmann and substantiated their findings; however, he stated that this type of glycosuria disappears after the third month. Seitz and Jess, in 1922, reported that they had produced glycosuria by the ingestion of 100 gm. of glucose in fifty women from two to eight months pregnant, with a rise in the blood sugar curve to physiologic limits. McWallis, in 1921, administered 50 gm. of glucose to pregnant women and found that the blood sugar curve in pregnancy is identical with that of hyperpituitarism. The epinephrin glycosuria test was originated in 1922 by Roubitschek. The patient ingests only 10 gm. of glucose in 200 cc. of tea, and thirty minutes later receives hypodermically 0.5 cc. of 1-1000 epinephrin solution. This test, like Frank and Nothmann's simple glycosuria test, is not absolutely diagnostic, but accredited by the author as a valuable addition to the early diagnosis of pregnancy.

Kamnitzer and Joseph, in 1921, reported their results from the use of phlorizin in the diagnosis of pregnancy. Their work is based on the production of some type of "renal diabetes" by the injection of phlorizin, a fact discovered by Von Mering, in 1886, and later studied by Lusk, Halsey, Kraus; Lusk, Reilley and Nolan; Stiles and Lusk, and many others. There seems to be some doubt whether the term "renal diabetes" should be applied to phlorizin glycosuria. It is a form of glycosuria in which there is no change in the content of blood sugar; the glycosuria results from a lowered permeability of the renal epithelium for blood sugar. This allows the sugar normally present in the blood to filter through the kidney, so that the blood sugar is actually diminished.

The procedure employed by Kamnitzer and Joseph consists of the injection of 2.5 mg. of phlorizin intramuscularly, and analysis for sugar of the urine passed thirty minutes later; 30 mgm. of phlorizin is dissolved in 30 cc. boiling distilled water and 2.5 cc. of the resulting 0.1 per cent solution is injected while still warm. This amount is one-tenth of that calculated to produce glycosuria uniformly in the normal person; so small an amount is supposed to be sufficient to produce glycosuria in the pregnant woman, since the patient already is on the borderline of renal diabetes. Kamnitzer and Joseph employed in their analysis Nylander's sugar reagent which makes use of a bismuth reduction instead of the usual copper reduction, and is very much more sensitive than the copper reagents. They reported all pregnant women to give a positive test, not stating how many were tested, 10 per cent of seventy-seven non-pregnant a positive test, and all men (ten in their series) a negative test. The positive test may be obtained two weeks after conception, they stated. Their conclusion was that a negative test excludes pregnancy.

Author's Series—The Kamnitzer and Joseph method of diagnosing pregnancy has been applied in a recent series of fifty-four cases in the Johnston-Wickett Clinic, consisting of twenty-eight non-pregnant women, nineteen pregnant women, and seven men. The decisive results of the originators have not been obtained. The apparent wide variations in the susceptibility to phlorizin, as judged by the depth of the black precipitate in the bismuth reduction, was striking. In this series some of the most positive tests were in men and non-pregnant women; 21 per cent of the non-pregnant women and 28 per cent of the men gave positive tests. Besides, negative tests were obtained in two of nineteen pregnant women, leaving positive results in 90 per cent in pregnancy. The test was repeated on one of the men with a positive reaction with only 2 cc. of the solution (2 mgm. phlorizin), and a positive test was obtained again. Three of the six positive tests in non-pregnant women were obtained by the use of only 2 cc. of the solution. The two negative tests obtained in the pregnant women were with 2.5 cc., one during the third month, the other during the fifth month of pregnancy. In carrying out the test, comparison was made of the urine before and after the injection of phlorizin by the use of control specimens from the patient, since the small amount of sugar normally present in the urine gives some reduction. The conclusion concerning the phlorizin method of diagnosing pregnancy in this series

was, therefore, that it is simple and easily applied, but greatly lacking in dependability.

DISCUSSION

John Vruwink, Los Angeles—The history of the patient and bimanual examination are still the only ways we have of diagnosing pregnancy. I am sure any one practicing obstetrics would welcome any procedure that would make definite a diagnosis of pregnancy, not only when there is a question of fibroids. Some definite method that would tell us whether or not a woman is pregnant would surely prevent a certain number of operative procedures incidental to a wrong diagnosis. Any efforts that are made to find this definite method are of great value. Whenever a procedure is first brought out, certain definite conclusions are drawn. For instance, Abderhalden's test for pregnancy when first published was rather definite in its conclusions, but since then has been shown to be unreliable. The work of Hollingsworth certainly proves that there is no definite method that permits us to conclude whether a patient is or is not pregnant.

Abderhalden's test is so far the best known method, but the very complexity of that procedure itself puts it into the hands of a few specialized workers and consequently is not available to the practitioner at large. The shortcomings of Abderhalden's test in the presence of various other conditions are well known. It is a fact that the urine of pregnant women contains one or the other type of sugar at certain periods. This occurrence has been estimated to vary from 40 to 80 per cent. Whether the increased permeability of the kidney of pregnant women to sugar will be of value in utilizing it as a diagnostic procedure is questionable. It seems to me that any deductions that can be made from the increased permeability will be relative because it is never known in a particular pregnant woman what her sugar tolerance may be. It is questionable in my mind whether the ingestion of glucose or the epinephrin glucose method will result in any definite advantage, although it will be well worth while to make further observations.

M. W. Hollingsworth, closing—The Abderhalden dialysis test has been found so unreliable that there is considerable contention as to its value, not only in the diagnosis of malignancy, but in the diagnosis of pregnancy as well. Van Slyke, Vinograd, Villchin and Losee developed a refractormetric method for the determination of serum protease with the particular object in view of applying it to the Abderhalden reaction. This is highly accurate and eliminates to a very great degree the subjective element. They found the serum of nonpregnant women showed as much ferment activity on placental albumin as the serum from pregnant women.

However, those tests based on the tendency of women in pregnancy to develop a type of renal glycosuria offer us more hope. It is from these that we may look forward to the discovery of a dependable laboratory test for pregnancy.

(Since the reading of this paper Joseph reports using only 2 mg. phlorizin and positive tests only in first three months of pregnancy. E. Schilling and M. Goebel, using this modification, find febrile patients give positive tests. Sachs finds the test of only doubtful value (14 per cent of pregnant women giving negative tests). J. Hofbauer reports further studies on alimentary glycosuria in the diagnosis of pregnancy. Bathe, and also Hollauer, report good, but not absolute, results with Frank and Nothmann's test. K. Hellmuth reports that the phlorizin and adrenalin tests must be discarded. He obtained better results with Frank and Nothmann's test.—Author.)

A SURGICAL STUDY OF ARTERIAL DECORTICATION *

By C. LATIMER CALLANDER, M. D., San Francisco
(From the Department of Surgery of the University of California.)

In 1918 Professor Halsted interested me in what was then the comparatively recent work on peri-vascular surgery reported by René Leriche of Lyons, France. In a long series of papers, Leriche has called attention to periarterial sympathetic nerve plexuses, and he specifies that certain definite clinical results follow the excision of these structures in the treatment of different clinical syndromes.

The surgical removal of these structures, an operation called by him "Sympathectomy," was conceived, proposed and accomplished in 1889 by his teacher, Jaboulay, who performed it with curative results on the femoral artery in certain perforating ulcers of the foot, and to a less successful degree on the coeliac trunks in visceral disturbances, the nature of which has not been ascertained.

TECHNIC OF THE OPERATION

Leriche has designated his operation as an "Arterial Sympathectomy," according to the arterial level at which it is performed—axillary, brachial, iliac, femoral, etc. The main arterial trunk is exposed by an incision 10 or 12 cm. long at a point a considerable distance proximal to the portion of the extremity which is affected. For example, the brachial artery is the operative site of election for disturbances in the forearm and hand, and the common or superficial femoral arteries in the foot or leg.

The external fibrous sheath covering the artery is divided over the length of the incision, and the artery, with its inner, more intimate sheath and adventitia, is now exposed. This inner sheath, which is fused with the adventitia, is grasped with tissue forceps and is incised directly on the vessel wall. Traction is maintained on one of the lips of the sheath of filmy tissue thus isolated, and this structure, containing for the most part adventitia, is completely freed from the artery throughout the wound with a knife or fine scissors.

Certain objective reactions in the hands of Leriche and his compatriots have been said to follow, and be consequent upon this decortication. During the course of the operation the arteries are progressively reduced in size to a third or half of their normal volume. Following this constriction there occurs a peripheral vasodilation, which is evidenced by a rise in surface temperature over those parts distal to the operation. A third reaction, which he notes as constantly following the operation, is a rise in the systolic pressure over the affected extremity.

CLINICAL PICTURES OF THE DISORDERS CURED BY LERICHE

We cannot fairly compare our results with those of Leriche, since our patients do not correspond in their clinical pictures to those in whom he obtained such spectacular results. In his hands arterial decortication afforded relief in a number of clinical syndromes, most of which he considers

* Read before the Surgical Section, California Medical Society, Yosemite National Park, May 17, 1922.

have, as a common feature, a condition of disturbed vasomotor balance.

1. *Traumatic Disorders of Babinski-Froment Type*—The disorder described by these men develops after minor injury to the soft parts of the limbs and is one in which the severity of the lesion is out of proportion to the intensity of the symptoms. Clinically, the disease is described as presenting a definite syndrome which includes contractures and pareses developing almost immediately after traumatism.

2. *Causalgia of Weir Mitchell*—Another rare but well-recognized disease which has yielded to this operation is the causalgia of Weir Mitchell. This syndrome in essence is a painful form of neuritis of the median nerve, and was described by him during the Civil War, and is so named from the Greek, meaning "I burn." Its causative factor is trauma, and the predominant symptom, pain.

In considering the mechanism of causalgia it is probable that we are dealing with a clinical picture caused by trauma to the sympathetic fibers accompanying the median nerve which supply the glands, capillaries, and nerve endings of the different layers of the skin.

3. *Results of Excision of Obliterated Arterial Segments*—In limbs affected by traumatic arterial obliteration, a variety of vasomotor, motor and sensory disturbances ensue. At operation an impermeable fibrous cord or the remains of scar tissue is found in which the artery cannot be recognized. Following the removal of this obliterated arterial segment, however, Leriche has noted marked improvement, and he concludes from his results that such an obliterated cord is not an indifferent structure, but a real nerve whose functions are perverted because of injury to its perivascular nerves.

4. *Spontaneous Ulcers in Amputation Stumps*—Certain ulcers which occur in amputation stumps in areas over which there is no pressure from apparatus, and which are definitely not caused by infection, are very refractory in their treatment. The stump in this condition is cold and oedematous, and any granulations present are very friable. Following decortication of the superficial femoral artery several of these ulcers have closed promptly and their scars have remained resistant enough to bear the use of apparatus.

FUNDAMENTAL DETAILS OF THE AUTONOMIC NERVOUS SYSTEM

Since Leriche states that both the mechanism of production of these lesions and that of their cure rests upon involvement of, and operative action on, the sympathetic fibers going to the affected parts, it is fitting before continuing that we review the fundamental physiologic and anatomic bases governing the course of the structures.

For this discussion a general scheme must be borne in mind, both since the facts which have accumulated are so numerous, and that results published on trivial evidence and faulty premise serve only to obscure the issue.

The autonomic nervous system of which the sympathetic fibers are but a part, includes the motor nerves which control the activity of the unstriated and cardiac muscle tissue and all glandular structure, and its four divisions take their origin in nerve cells in separated portions of the central nervous system. Excluding the three groups of mid-brain, bulbar, and sacral autonomic fibers from the scope of this paper, our interest is centered in the sympathetic division of this great system. The cord cells of the sympathetic autonomic division lie in that portion of the spinal cord from the first thoracic to the second or third lumbar segments, inclusive.

Nerve Unit of the Sympathetic System—To appreciate properly the peripheral course of the sympathetic fibers with which we are concerned in this discussion we must be familiar with the nerve unit of the sympathetic system. In common with the other divisions of the autonomic system, this working unit consists of a central and a peripheral neuron. The central of these neurons in any given segment has its nerve cell in that cord segment, and this cell sends out from the cord a medullated axon by way of the anterior root of the corresponding spinal nerve. Outside of the cord this medullated axon, in company with many similar axons, emerges from the anterior root and ends in one of the ganglia of the sympathetic system. This axon, then, is called the "pre-ganglionic" fiber of the sympathetic unit. We have said that this axon leaves the anterior root, and it does so in company with many similar axons from similar cells in the same spinal segment. As these fibers leave the anterior root they form a nerve trunk connecting this root with the sympathetic ganglion, which trunk is called the "white communicating ramus," white since this group of pre-ganglionic fibers are medullated.

The "sympathetic ganglia," about whose nerve cells these pre-ganglionic fibers ramify, consist essentially of the nerve cells of the peripheral sympathetic neurons. The peripheral non-medullated axons of these cells are known as "post-ganglionic fibers." These axons likewise are grouped into a trunk of fibers which connect the lateral sympathetic ganglia with the spinal nerve roots, and this trunk is the "grey communicating ramus," grey since it contains for the most part non-medullated post-ganglionic fibers. The characteristic common to all of the lateral sympathetic ganglia is that the nerve cells there contained send their post-ganglionic fibers, at once or eventually, back to the cerebro-spinal nerves, thence to be distributed to the body wall and the extremities.

Course of the Sympathetic Fibers to the Skin of the Extremities—When the post-ganglionic fibers destined for the skin re-enter the spinal nerves they are distributed to the periphery in the cutaneous branches of these nerves and not along the main arteries of the part, a fact of dominant interest in this discussion. While it has been generally believed that some sympathetic fibers make their way to the periphery along the sheaths of the arteries, definite proof that they follow this course has not been adduced. There is, however, this point to be borne in mind, that the sympathetic system does send fibers direct to the aorta, and that these fibers appear to spread some distance along the larger arteries. It is not unlikely that these nerve fibers cause some contraction in

the walls of these vessels, and that in this way a modification of the blood supply to the skin and muscles may take place without any direct action on the walls of the peripheral vessels.

Bearing in mind that this operation in Leriche's hands has brought about vascular dilation distal to the operative site, we have selected patients in whom we thought this peripheral vasodilation, bringing an increased blood supply to the part, might bring relief. In this series we have performed ten arterial decortications on six patients, on one of whom three arteries were stripped for disease of three extremities, and on another two arteries were stripped for trouble in two extremities.

We have preferred to make no clean-cut diagnoses in these patients, but have chosen to place them into three groups. In the first group we shall consider those in whom the arterial changes before operation were thought to be spasmodically contractile in their nature rather than permanently obliterative. In the second group will be mentioned those in whom an obliterative arteritis had seemed to play the predominant role. The third group is that of unaccounted-for pain, in which we have but one case.

CASE REPORTS

Group I

Case 1—(E. H.), male, age 38. For twenty years patient has suffered from vascular disturbances, which brought him to the hospital with severe gangrene of an amputation stump below the left knee, gangrene in various stages of progress in the left hand, and changes threatening gangrene in the Chopart amputation stump of the right foot. Amputation of the left leg in the upper third of the thigh was immediately necessary as an emergency measure.

Operations and Result: (First Operation)—A decortication of the left brachial artery was performed in the hope that the gangrene in the left hand would be arrested. Present reports (six months later) show that the patient is having no further gangrene in this hand, but that the subjective symptoms have not improved. (Second Operation)—Decortication of the right common femoral artery and a portion of the superficial femoral artery (Dr. S. Hyman) resulted in no improvement in the condition of the right foot.

Case 2—(P. O.), male, age 47. For four years the patient has had pain and vasomotor disturbances of the most severe character in both feet and lower legs, together with pain and excessive hot and cold sensations in the left hand and forearm. Soon after the onset of the pain and violent skin discoloration, a deep ulceration developed over the mesial surface of each great toe. These two ulcerations, together with the other objective and subjective reactions, have been proof to all manner of therapy over this period of time.

Operations and Result: Decortication of both superficial femoral arteries and the left brachial artery have had no effect on the painful symptoms. The ulcerated areas, however, have both healed into resistant scars and have remained healed over a two months' period.

Case 3—(E. D.), female, age 63. For twenty-three years the patient has suffered from vascular changes in her extremities until the time of her admission into the hospital, when she presented serious gangrenous lesions of the fingers of both hands, the condition of the left hand being the worse.

Operation and Result: The left brachial artery was decorticated and the operation was followed by a diminution in the pain and hyperaemia of the hand, which lasted over several weeks. At the expiration of this time the condition became as before and three fingers of the left hand were amputated because of ascending gangrene.

Group II

Case 4—(C. E.), male, age 63. The patient has suffered for several months with pain in the calves of both legs and pains in the feet. Pulsation could not be obtained in the posterior tibial or the dorsalis pedis arteries of either foot, while on the dorsal surface of the terminal phalanx of the middle toe of the left foot was an ulcerated area which extended to the bone. This ulceration was spreading and becoming gangrenous.

Operation and Result: Decortication of the left superficial femoral artery (Dr. A. R. Kilgore) was followed in several weeks by a complete healing of the ulcerated area and a disappearance of the pain. At present, more than a year later, there is a resistant scar over the area and the patient is doing hard work without handicap.

Case 5—(N. F.), male, age 67. During past two years the patient has suffered with a progressive obliteration of the arteries of the lower extremities, until at time of examination no pulsation could be demonstrated below the internal iliac arteries.. An excruciating pain in the left leg and foot, which extends into the groin, was present almost constantly.

Operation and Result: Decortication of the superficial femoral artery resulted in no improvement in the symptoms or the objective reactions.

Group III

Case 6—(C. C. K.), male, age 28. A young mechanic gouged out a portion of the mesial aspect of the terminal phalanx of the right thumb. Following healing a lancinating pain developed in this thumb and the index finger, and removal of the scar together with alcohol injection of the nerve to the thumb were of no avail.

Operation and Result: Decortication of the right brachial artery was followed on the following day by disappearance of the pain. Several weeks later, however, a second pain occurred in the volar area of the flexor muscles of the forearm, and this pain, which persisted over months, has now disappeared.

We wish to state here that we have operated upon no patients who correspond in their diagnoses or clinical pictures to those treated so successfully by Dr. Leriche, and it would be obviously illogical to pass too hasty judgment on this operation on the basis of the results of cases in our hands. There are, however, certain fundamental principles wherein we differ with Leriche. The point of primary importance is to gain the proper conception of the path of the vasomotor fibers to the extremities. After careful study of Leriche's work, one reaches the conclusion that he considers the majority, if not all, of the vasomotor fibers to the extremities follow the sheaths and lie in the adventitia of the larger arteries. We find, however, that anatomists and physiologists concur in the belief that they accompany, and are embodied in, the spinal nerves which run to these parts. If such be the case, the sympathetic vasomotor fibers must leave these spinal nerves at different levels in their course and supply innervation to the arteries from point to point as this innervation is required, and not hold to a continuous course along the arteries. It is a gratuitous assumption, then, that the continuity

of these fibers may be severed, irritated, or otherwise interfered with by a removal of a thin sheet of tissue from the body of an artery. So far as physiologists have been able to prove, the only sympathetic fibers which accompany the large arteries to their termination are those which run from the pre-vertebral ganglia to the thoracic and abdominal viscera.

There arises, too, the natural question as to whether sympathetic fibers of more than minor importance are removed at the time of operation. Difficult points in the staining of nerve fibers of the tissue removed at operation necessitate further work on this subject. It is rather striking, also, that in our cases, save in one instance, we were unable to demonstrate any post-operative rise in blood pressure or increase in surface temperature.

At this writing, then, we are forced to the conclusion that an insufficient number of observations of this operation have as yet been made, and that it is only by careful physiologic estimations of capillary, surface temperature, and blood pressure changes that a proper conclusion can be reached. In terminating this paper, however, we cannot overlook the fact that marked improvement and possible cure in several otherwise hopeless conditions have resulted from this procedure, even though the mechanism of the production of the diseases, as well as that of their cure, is as yet unexplained.

(240 Stockton Street)

Hospital Work of the A. M. A.—At the meeting of the American Medical Association in 1920 the House of Delegates placed all the Association's work with hospitals in charge of the Council on Medical Education and Hospitals.

For the tremendous work that needs to be done for the improvement of hospital service, no organization occupies a position more advantageous than the American Medical Association with its various State organizations. The work of the Association with hospitals must take all institutions into consideration, and the Council is planning to establish a list, not only of those approved for intern training, but also of those approved as non-intern hospitals. The standard applied to intern hospitals is being modified so as to apply to both groups. It is becoming increasingly important that every community be provided with adequate medical and hospital service. So much depends on the future development of hospitals, therefore, that the members of each State committee should be selected with special care. It is urged that a permanent committee be established in every State consisting, preferably, of three members serving for a term of three years, the first committee being so appointed that the term of one member will expire each year. . . .

We wish to mention especially the splendid cooperation received from the State hospital committees, which respond fully and promptly whenever requests for information or inspection are made. In a few States, notably California, Washington, Missouri, and Ohio, and to a greater or less extent in other States, the committees have been particularly active, and even aggressive, visiting hospitals and assisting in problems of staff organization or community relationships when requested by the hospital. In fact, the State committee organization throughout the country is now capable of being called into action to perform any important work, and with a thoroughness hardly to be expected of voluntary committees.—Report of the Council on Medical Education and Hospitals of the A. M. A.

IRON CITRATE REACTIONS

By F. F. GUNDRUM, M. D., Sacramento

Some years ago, Gay and others described the intravenous injection of dead typhoid bacilli into patients suffering from typhoid fever and showed that in a certain percentage of cases the course of the disease was greatly modified following the sharp reaction, chill, fever, sweat and leucocytosis which followed this procedure. Later it appeared that this reaction was in no wise specific and the same course of events could be produced by intravenous use of many foreign proteids. Latterly the parenteral injection of various foreign proteids has been used therapeutically in many conditions with notable benefit in chronic arthritides and some chronic skin lesions.

The following case is of interest because: first, the reaction was produced by a non-proteid substance; and, second, the subsequent course of the disease was modified.

CASE REPORT

Mrs. O. aged 30, admitted to the White Hospital at the end of the first week of typhoid: W. B. C. 4,000; Widal positive. This patient, only recently from Japan, evinced a great distaste for the usual typhoid dietary, especially sweets and milk. The only food she would take was rice gruel, upon which she became, as the disease progressed, exceedingly emaciated and anaemic. On this account, iron citrate, grs. ¾, was ordered to be given hypodermatically. The first dose, on the forty-eighth day of the disease, was followed by a chill, elevation of temperature to 102, pulse corresponding. On this day we were unable to explain the chill; physical examination gave no clue to its cause. Upon the two following days the nurse forgot to give the iron citrate. Upon the fifty-first and fifty-second days the same dose given hypodermatically was followed by a chill, rise of temperature to 104 and 105, with rapid defervescence. The iron citrate was discontinued. The temperature curve, which previously to these reactions had shown an afternoon elevation to between 100 and 101, remained at 99 or below until the patient left the hospital cured.

The iron citrate preparation used was of a well-known standard make, perfectly clear, and the remaining ampoules in the same box were used upon another patient without producing any reactions. Though it is impossible to say that there was no proteid in the ampoules used, its presence is in the highest degree unlikely.

(Capital National Bank Building)

Psychology—"The word 'psychology' is shamefully overworked and misused. For several years it has been the prey of charlatans, four-flushers, bluffers and ignoramuses until at sight or sound of it we are more likely to be disgusted than interested. There seems to be no end of magazine articles, books, lectures, and advertisements on the psychology of religion, psychology of advertising, psychology of adolescence, psychology of dreams, psychology of the strike, psychology of salesmanship, psychology of health, psychology of childhood, and the hundreds of other similar vague titles that force themselves upon us. The climax certainly has been reached, however, in the now prevalent question, 'What is the psychology of this situation?' or, 'The psychology of this act?' or, 'The psychology of that man?' these questions being offered merely for the sake of conversation, just as we will talk about the weather."—(Journal of Iowa State Medical Society, August, 1922.)

THE PHYSICAL BASIS OF DEEP ROENTGEN THERAPY*

By FRANK RIEBER, San Francisco.

In handling the subject of deep roentgen ray therapy from the physical standpoint, only one biological factor really needs consideration. The balance of the subject may be treated strictly as a problem in engineering and physics. Therefore, in this paper I wish first to state my biological basis and, second, to give as simple a physical explanation as possible of the laws governing the generation, transmission and absorption of roentgen rays intended to accomplish certain predetermined results biologically.

Generally stated, the biological factors are: (1) Any living tissue, if exposed to a small quantity of Roentgen radiation, is stimulated to a condition of greater activity. (2) If the amount of roentgen rays delivered to this tissue is increased, the activity of the tissue is not stimulated further, but on the contrary is inhibited or restrained. If the amount of radiation is further increased, this inhibition will eventually reach the point of actual tissue destruction. All types of tissue do not respond at the same rate to the same dosage of X-rays. In this fact lies the basis of roentgen therapy—namely, to apply a dosage to a certain selected portion of the human body which will accomplish a certain result, and yet *not* to cause damage to other portions of the body which it is not desired to affect. For example, if we wish to treat a tumor or malignant growth some distance below the surface of the body, we may direct a beam of X-rays toward this tumor, and a certain fraction of the energy in this beam will actually be delivered to the tumor and absorbed in it, and an effect in the tumor will be produced thereby. However, any beam of X-rays directed at the body acts to some extent on all tissues that it strikes. Further, the effect of this beam is strongest on the first tissue it encounters, and becomes progressively weaker as it proceeds through the body. Under these circumstances, the skin in the typical patient we are considering will absorb a greater proportionate quantity of the beam of rays than will the layers of tissue beneath the skin, and a much greater proportion of this beam than will be absorbed by the tumor. We are therefore confronted with the first limitation to our treatment. *We must limit the total energy* in the beam so that the skin of the patient does not have delivered to it and absorbed in it more than a certain total quantity of energy which we will designate as the "safe skin dosage."

The second consideration in our problem is that we wish to *deliver the maximum possible quantity* of the total radiation in our beam at the point where we desire to produce an effect with this radiation—that is to say, at the tumor itself. Combining these two conditions, we can state our complete problem—we wish to *deliver the largest permissible quantity* of roentgen rays into *a tumor without exceeding the safe limit* of radiation in any other part of the body.

Now, let us consider the X-ray, to see how its laws of generation, transmission and absorption fit it as a tool for the purpose we wish it to accomplish. First, the much discussed matter of the voltage or "spark gap" at which an X-ray tube can be excited, with relation to the effect we can produce with the X-rays. Any X-ray tube in action sends out a large and varied assortment of X-rays—all of them having different qualities. Some of these rays are able to penetrate rather deeply in the tissue before they are completely absorbed. Others are more readily absorbed and will produce no appreciable effect at a very slight depth below the surface of tissue. The best that we can do, therefore, is to state that at any given voltage or "spark gap" applied to the X-ray tube, we will generate X-rays whose *average ability* to penetrate tissue bears a *definite relation* to the voltage, or "spark gap" at which they were produced. This average penetrative ability increases with an increase in voltage.

To employ the rays from an X-ray tube for deep therapy, we find it expedient to use only those rays from the total assortment generated by the tube which have a relatively high penetrative ability, and to discard the rays which have a low penetrative ability. We are thus able to increase the proportion of rays of the total beam which will arrive at a given depth in the tissue. We accomplish this selection of rays by what we call filters—layers of metal or other substances through which the X-rays are passed on their way from the tube to the patient. These filters absorb the rays of low penetration very readily, so that very few of them get through. The rays of high penetrative ability, on the other hand, pass much more readily through the filters, and a fairly large proportion of them get clear through, and are available for purposes of treatment. The exact selection of the amount of filter required for a given voltage or "spark gap" on the tube, with a given result to be accomplished within the body, is a matter which need not be presented here in detail. Data are available from which the thickness and materials of these filters can be determined with fair accuracy if the conditions under which they are to be used are known beforehand. The general effect of filtration is to produce a more homogenous bundle of rays—that is to say, there is a smaller proportionate difference between the *most penetrative* and the *least penetrative* rays in a filtered beam. There is a limit to the amount of filtration which can be applied to any given beam of X-rays for a certain purpose. This will be readily seen when it is remembered that a filter not only stops a high proportion of the rays of low penetration for which we have no use, but that it also stops a certain proportion of the rays of high penetration which we need. Therefore, if we increase the filtration to a great extent, we will not improve greatly the quality of the rays we are obtaining, but we *will* weaken the beam, and we will therefore require much longer time of treatment to accomplish the same

* Read before the Section on Radiology of the California Medical Association at Yosemite National Park, May 17, 1922.

results—a great inconvenience and waste of time both to the patient and operator.

Let us now consider the problem of treatment with relation to the position of tissue on which it is desired to produce an effect. If this tissue is on the skin, or near the surface, we do not need very penetrative rays to reach it. Further than this, a highly penetrative ray would possess a disadvantage, in that it would not only produce an effect in the tissue we were trying to reach, but a large proportion of the ray might pass completely through the tissue under treatment, and produce effects on tissues lying deeper which we did not want to touch. Therefore, for treatment at or near the surface, a low average penetrating characteristic is all that is required. Rays of low average penetration may be produced by using a lower voltage, or "spark gap," applied to the X-ray tube. For example, most skin work and much superficial gland work may be done at a potential not exceeding one hundred kilovolts crest, corresponding approximately to a seven-inch spark gap between points.

If, on the other hand, we wish to affect tissue at a much greater depth, we should resort to the highest voltage which an X-ray tube will sustain without destruction of the tube. The penetrating rays produced at this high voltage enable us, without exceeding the safe skin limit, to get a much larger proportion of the energy delivered at a depth. But rays of this penetration can not be trained to dash into the body to a certain depth, and then stop short. If we find it necessary to use penetrative rays, we must accept the fact that these rays will not stop entirely when they have reached the desired depth, but that a considerable proportion will pass beyond that depth and in fact clear through the body. As a typical example, suppose we are attempting to treat a tumor with its center at a depth of six inches from the surface of the body, and that the body at the point where it is being traversed by the beam of X-rays has a total thickness of one foot. Suppose further that we are confining the beam of X-rays we are using to a very small cross-sectional area—in fact, suppose we are using a mere pencil of rays. Let us assume further that we are able to measure the intensity of the beam of rays at all points in its path (as we are actually able to do if we substitute for the human body an experimental tank of water or water phantom, since water has almost the same identical co-efficient for absorption of X-rays as has living tissue). If we are exciting our X-ray tube at 150,000 volts crest—roughly, a nine-inch spark gap—and if we are filtering this beam of rays to the maximum practical extent, we may find a series of measurements somewhat as follows: At the surface of the body, we intend to deliver a certain total radiation which is limited by the amount the skin will stand. Let us refer to this intensity at the skin, therefore, as one hundred per cent. If we now measure the successive intensities in the beam as we go below the skin, we will find that they fall off fairly rapidly, until when we arrive at a depth of six inches (namely, at the center of our tumor) we may find that the intensity has fallen off to five per cent of what it was at the surface. Following the beam on through, we will find progressively decreasing intensities until when we arrive at the opposite side of the body the total intensity may be down to as low as one per cent of the intensity at the skin port of entry.

Thus we see that in this hypothetical case where we are using a nine-inch "spark gap" the skin receives one hundred units (all that it will stand) and the tumor receives only five units of dosage, which is much less than the amount we should use to produce an effect of inhibition or destruction. In a case of this sort we may even deliver so slight a dosage to the tumor that we stimulate its growth, an altogether undesirable thing. Let us now see what happens if we increase the applied voltage to a very high value—say 240,000 volts—and again select a filter which will permit us to use a large proportion of the most penetrative rays, at the same time discarding those of less penetration. Assume that we pass a very narrow pencil of such rays through the same patient. If the dose be graded so that we deliver one hundred units of radiation at the surface—this being, remember, the full amount which the skin will safely stand—we find that instead of delivering five units at the tumor as before, we can now deliver possibly fifty or sixty units, and that ten or fifteen of these units will be carried clear through the body and delivered to the skin on the opposite side from the port of entry. This, in brief, is the advantage of the new intensive deep therapy. For the same equivalent safe dosage to the skin, we are able to deliver a much higher proportion of radiation at a depth below the skin. However, the radiation received by the tumor is not determined alone by the skin radiation, the depth, and the penetrative power of the ray. Another factor enters which complicates the problem very considerably, and renders it necessary for us to conduct a number of rather involved experiments in order to determine the exact ratio of the depth dose to the skin dose. This other factor we term "scattering" and it can best be expressed thus. The pencil of rays which comes from the tube may be considered as passing directly through the patient in a straight line, losing energy all of the time by reason of its absorption by the tissues. This absorption is of two kinds. The first kind results in an actual conversion of some of the X-ray energy into energy of chemical reaction or its equivalent. This is the type of absorption that produces biological effects on the tissue. The second type which we can also call absorption in the general sense of the word, consists in a loss of energy by the X-ray beam, but this energy, instead of being converted into chemical effects, is merely absorbed from the primary straight line beam of X-rays and re-radiated from the point where it is absorbed in the form of X-ray energy again.

Thus we have a primary beam of X-rays passed straight through the body, part of this beam being absorbed on the way and converted into chemical energy with resultant biological effect and another part of the beam being likewise absorbed as it passes through, but *reconverted* to X-rays which

scatter in every direction. These scattering rays are of two kinds. The most pronounced type, and only one which produces any effects which we must necessarily take into account in computing dosage, has the same penetrative ability as the primary beam of X-rays which caused it. The second type of re-radiated energy is of very low penetration, and stops before it has passed through any measurable amount of tissue. This scattering effect of X-rays was formerly not taken into account in computing dosage, because at the low voltages then in use, the penetrative ability of X-rays was fairly low, and they were therefore absorbed very rapidly. The scattering rays would thus be absorbed before they had come very far from the point where they scattered from the main beam, and would not be noticed in the total result. However, with rays of tremendously high penetration which we are now able to generate at 200,000 volts and over, the scattered energy travels very readily to a considerable distance from the point where it was deflected from the main beam. It may even be re-deflected a number of times on its divergent path. Thus we must consider in computing the radiation which falls upon the tumor at a depth below the surface, not only the primary bundle of rays which has been directed at the tumor, but all of the scattered radiation from other parts of the body which likewise happens to fall upon the tumor. To appreciate the practical importance of this, assume that we have a tumor about the size of a walnut at the depth of several inches below the surface of the body. Assume further that we are able to locate this tumor with extreme accuracy and to direct a beam of high penetrative X-rays upon it in such manner that the beam will be no larger than necessary to strike all parts of the tumor. We will now have a dosage delivered at the tumor due to the direct beam of rays, and a slight additional dosage due to such scattering rays, set up in the path of the direct rays, as happens also to strike the tumor. Now let us enlarge our beam of rays which has been directed at the tumor until it covers a very much greater area, and let us keep the radiation of exactly the same quality as before, so that in a given time we have passed as much energy into the body as the skin will permit without reaching the destructive limit. The tumor will have received the *same amount* of dosage from *direct radiation* as it formerly did. But it will have received in addition a *very much* larger amount of scattered radiation, because we have greatly increased the area of the primary beam and have therefore greatly increased the total volume of tissue which has been excited into radiating scattered rays.

The computation of the total dosage from a theoretical consideration, while it is doubtless possible, is of too great difficulty to be of practical value.

Experimental work has therefore been done on the following points:

1. To find an experimental medium which would offer the same resistance to the passage of X-rays and generate the same proportion of scattering rays as human tissue does.

This has been satisfactorily answered by the use of water. Water phantoms or containers approximating the shape of the portion of the human body it is desired to treat have been made to use in experiments.

2. The development of an instrument which when placed in a water phantom (or within the human body) and exposed to X-rays, will give readings proportionate to the strength of the biological action at that point.

This problem has been fairly well solved by the use of small cells termed ionization chambers. These cells are constructed of horn or celluloid, and lined with a layer of graphite to serve as an electrical conductor. Since the materials used in their construction correspond fairly well with tissue and with water in the rate at which they absorb energy, they exert no great disturbing influence on the measurement. A highly insulated electrical wire is led into the center of one of these small cells, and a known amount of electrical charge is placed on the wire. If no X-rays strike on the cell, normally the air within the cell acts as an insulator and the electric charge placed on the wire will remain for a very considerable period of time without leaking off. When it does so leak most of it is carried from the wire through the insulation covering it, and practically none of it passes across the air space within the cell. By timing the rate at which a known charge leaks off through the insulation of the wire, this loss can be corrected for. If, now, a given charge is placed on the wire, and the cell exposed to X-rays, the air within the cell is ionized—that is to say, the air absorbs X-rays and converts them into energy of ionization, so that the air becomes a conductor of electricity in proportion to the quantity of X-rays striking it. Due to the electrical conductivity of the wire, the charge now leaks off very rapidly. The time during which it leaks off may be measured, and after subtracting the known leakage rate of the insulation on the wire, the remaining time serves as an indication of the strength of X-rays to which the chamber was exposed. The shorter the time the more intense the radiation. In fact, the strength of radiation and the time of discharge for a known charge bear an exact inverse proportional relation within the limit of experimental error.

3. Having now obtained an experimental medium similar to tissue, and a measuring instrument capable of measuring the intensity of radiation at any point within that medium, we may proceed with our experiment. A beam of filtered X-rays produced at a known voltage or "spark gap" and filtered through carefully measured filters in order to remove the low penetrating components, is allowed to pass through such a water phantom in which, while the ray is constant in quantity, the ionization chamber is moved from point to point, and the distance at each point is measured.

By taking a very large quantity of such measurements it is possible to plot lines of equal dosage through the cross-section of the water phantom.

A chart so constructed shows the cross-section of the phantom through the mid-section of the ray, and assumes a radiation at the face of the

water phantom where the beam enters of 100 per cent. Using this value as a standard, a line is then located on the chart corresponding to the distance from the port of entry at which the radiation has fallen off to 90 per cent. This line curves somewhat and extends beyond the area of the original beam, due to scattering. Similar lines are constructed for 80 per cent, 70 per cent and so on until the entire area in question has been plotted.

A large number of such charts have already been constructed for water phantoms. Using such a chart selected for its conformity to the portion of the anatomy under treatment, it is possible to predict the intensity of radiation which will be delivered at any desired point when the full safe dose has been given at the skin.

It is even possible to use such charts in combination, so that several ports of entry may be used, and the total cumulative effect of dosage at an interior point may be predicted. It must not be forgotten, however, that when using several ports of entry, the full skin dosage must *never* be given through any one port, as scattering rays will be excited when radiation is passed in through the other ports, and some of these scattered rays will reach the skin at the first port of entry and add to the original dosage that has been given there.

In closing, a few words should be said about the present limits of voltage and the future possibilities that may increase this voltage.

The construction of X-ray apparatus to deliver extremely high voltage now presents very few difficulties, if carried out by those familiar with the work. The construction of the tubes to withstand these high voltages has not at the present time been carried beyond certain limits. The new high voltage Coolidge tube reaches its safe limit of operation in the neighborhood of 200,000 to 220,000 volts. If a higher voltage than this is used, destructive sparking, particularly around the anode end of the tube will occur. This sparking is due to an accumulation of negative electrical charge on the inside of the bulb, which then attracts sparks from the positive terminals of the tube which reach out over the glass in an attempt to neutralize this charge. If these sparks are permitted to occur too frequently they will perforate the glass. In suppressing high frequency surges in the high voltage line, the writer has been able to operate these tubes successfully for rather extended periods at 275,000 volts. Rather more watchfulness is needed, however, at this voltage, even with all of the electrical precautions that can be adopted to insure smooth operation. Without using other methods than those that have been tried, it does not seem feasible to operate the present day Coolidge tubes successfully at higher than 250,000 volts, even with this new system.

CONCLUSIONS

A tremendous advantage lies with the use of high voltage heavily filtered rays in that more energy can be delivered at a depth without damaging the skin.

It is impossible to predict the dosage at a depth without taking into account the cross-section of the in-going beam of X-rays.

Extended experimental work has enabled the construction of charts from which the exact dosage at any given point may be determined if the applied voltage, the filtration and the size of the port of entry are known.

Underweight a Delusion—Is there but one normal, healthy standard weight corresponding to every height, so that he who exceeds it is "overweight," and he who falls below it "underweight?" That this idea is a dangerous fallacy is contended by Charles K. Taylor of the Carteret Academy of South Orange, N. J., writing in The Outlook (New York) on "The Great Underweight Delusion." According to Mr. Taylor, a "stocky" boy, or a slender one, may be just as normal and healthy as one who has the "standard" proportions of the Apollo Belvedere. They are of different types, that is all. Some people are doubtless too fat and others too thin, but that fact is to be ascertained, not solely by comparing weight with the height, but by a system of measurements taking both these figures into account. Mr. Taylor has worked for years to construct a system of tables for this purpose, and thinks he has now a satisfactory method of applying his ideas in practice. He writes:

"Children are frequently slender because it happens to be a hereditary type just as it is hereditary for some to be stockier and heavier than the average. Some races are typically slender, with weight below the general average of humans.

"The very essence of our delusion is the claim that there is only one normal and healthy type of build—the 'average'—and if children (not to mention adults) happen to be more slender than this highly worshipful average, then, obviously, something is wrong with them. They are 'underweight.' A frightful term that sends whole communities into providing fattening diets for perfectly healthy children and doing everything that uncanny genius will suggest to make a lot of normal children morbid over matters they do not need to worry about.

"It might be interesting for some one to analyze the Worship of the Average. I don't know what we would do without it. Why, our whole educational system is based upon it. The average child! And that is why the duller-than-average child is perhaps prodded up a little; children brighter than the average are caught fast in the machine, so that educationally they are rarely able to come anywhere near their capacities.

"So when we insist that children should at least came up to an average in weight we are doing only what we also do in the classroom, with this difference, however: When a child's weight is overaverage, then we are likely to smile with approval; but when a child is mentally overaverage, well, we just let that child remain in the grip of the machine that keeps achievement down to the average scale of things.

"Our stand is simply this: That it is just as normal and healthy for some children to be more slender than the average and for others to be stocky or thickset, as for still others to approximate the average, that it is a matter of inherited type of build, and all we need to do is to see that a child is properly developed for his or her normal type of build.

"When a child is in good physical condition, and particularly when that child's muscles are not flabby, but firm and efficient, then we may be sure that the child's weight is correct, no matter what it is. And our work, then, is merely to see that a child has a physical development corresponding to his or her type of build.

"It will take a very serious mental upheaval to bring many of us to see that the question is health and development, and not one of weight, but we are coming to it little by little. And once this is accepted, then another question will come promptly into being. Here is this one: 'How are you going to know when a child is well developed?' Nor is this going to be difficult to answer."—(Editorial, Journal of Indiana State Medical Association.)

Detailing Physicians—Through familiarity on the part of the doctor with the U. S. Pharmacopeia, the National Formulary and New and Non-official Remedies would make "detailing" a less popular indoor sport for the manufacturer.—San Diego Medical Society Bulletin.

OVER FIFTY YEARS IN MEDICINE *

By ROBERT F. ROONEY, M. D., Auburn, California

Fifty-six years ago, or in June, 1866, I entered upon the study of medicine in the office of two medical partners in a small but central town in the then Province of Lower Canada, now the Province of Quebec. The partners kept their own medicines and there I imbibed my anatomy and physiology in the intervals afforded between the compounding of mixtures, the rolling of pills, and the mixing and folding of powders. There I was present at the setting of fractures, and the operations of minor surgery. Yes! and even the extraction of teeth—the nearest dentist being twenty miles away.

I believe such training to be good for a young man, and makes him better able to handle his own patients in his early years, rather than the student who enters college without such experience, and who begins private practice without other than hospital work, which is so entirely unlike the handling of private patients. Shortly after entering the office of my preceptors, one of them took me to visit a hopeless case of—peritonitis? The patient was a young Scotchman who had just arrived at the local hotel with his wife whom he had married before leaving the old country, and who knew no word excepting Gaelic. He came with a few pounds in cash, intending to buy a farm and become a settler. He was almost at once stricken with what was, no doubt, an attack of appendicitis, in the face of which the profession then stood helpless, calling it "peritonitis" and keeping the unfortunate under the influence of opium until death closed the tragedy.

The scene at the bedside has haunted me througout the years. The man lay gasping out the last of his life, and his young wife knelt by the bedside with her arms outflung across his body, and her face buried therein, crying out in the rhythmical cadence the Gaelic words, "Hamish sorg ma Dheelish! Hamish sorg ma Dheelish!" It was the despairing cry of a broken heart in a new world, without friends, and even without knowledge of the language spoken around her.

Often, later in life, when the abdominal cavity had ceased to be sacro-sanct, those mournful sounds came back to me, as a reminder that this poor fellow's young life might have been saved by a comparatively trifling operation.

Another instance. My preceptors were both progressive men, and their journals recording cases of ovarian tumors being cured by the injection of Tr. Iodine after tapping, they set a day for operating on a case in their practice. I accompanied them to give chloroform, if needed. The patient was past middle age with an immense tumor. She was successfully tapped and the iodine injected through the trocar into the emptied sac, but the woman lived only for a short time, and in great pain. I can yet see my eldest preceptor, sitting grief-stricken over the result.

In the autumn, I entered the medical department of McGill University. It was the year that a four-year course was first adopted and a strict examination held in Greek and Latin (at the student's choice), mathematics, French or English (at choice), dictation, to show writing and spelling and familiarity with the language. Only two other colleges on the continent, at that time, demanded a four-year course—Harvard and the University of Pennsylvania—all the others demanding only a two or three years' study. Of course, a good university course precluded the necessity of passing such examinations. I graduated and received my M. D., C. M., on March 31, 1870—over fifty-two years ago—and began practice in a neighboring town to my preceptors, where I remained until 1877, when the glamor of California overwhelmed me and I came west.

The years of my medical life have been epochal. They compass the great majority of the wonderful discoveries of medicine and surgery. This I aver without fear of contradiction. Also it has been prolific in fads and cults. At the outset of my career, Virchow had just promulgated his cell theory which revolutionized medicine; and Lister had revolutionized surgery with his antiseptic teachings and practice, and the operating rooms throughout civilization echoed to the hissing of carbolized spray, and operator, patient, assistants and observers were indiscriminately showered with the odorous vapor. My student days in the operating room are recalled by all phenol odors, which are, one and all, obnoxious to me for that reason.

But to this man we must yield all honor because to his worked out theory of wound infection is due an entire revolution in the treatment of wounds, and in surgical technique. Where thousands formerly died, thousands now recover, due to the labors of this one man.

In my graduation year died Dr. James Y. Simpson, with whose name chloroform is carved on the pillars of medical progress, and to the introduction of this agent into obstetrics, relief to woman's pangs is due. It is a curious bit of history that for this alleviation of the pains of childbirth, Simpson was bitterly assailed by the Scottish clergy, as the Bible had proclaimed that "in sorrow shalt thou bring forth children." But he came back with this riposte: That when Eve was created, God threw Adam into a deep sleep, and, taking one of his ribs, formed Eve. This was a silencer.

Although McDowell, an humble country doctor, performed successfully and almost unaided and alone, the operation of ovariotomy in 1809, no one had the courage to follow in his footsteps until into the '70's, when Sims, followed by the Atlees and (I think) Thompson of Harvard, made the abdominal cavity an open road to surgery. But it was some years before the surgeons, in the absence of soluble ligatures, ceased to clamp the stumps of the removed tumors outside the abdomen. The discovery of absorbable ligatures, and aseptic silk and other material, gradually did away with danger. I might here add that to Lawson Tait of England, we are greatly indebted for his teaching of asepsis, instead of antisepsis.

Then one brilliant discovery after another came within the compass of my medical life. Charles Louis Laveran, an obscure regimental surgeon in

* Read before the Placer County Medical Society.

the French Army, buried in the lonely sands of Africa, found the plasmodium malariae in the blood of malarial victims. For this he was hooted at, and belittled by the medical big-wigs of Paris, but "Truth is mighty and must prevail," and very soon his discovery was verified throughout the scientific world.

Then came Robert Koch, another obscure man, who demonstrated the whole life history of the TB, and so thorough was he, that he said practically the last word concerning it to this day. He also demonstrated the cholera spirillum, and he, too, was ridiculed by the "know-it-alls,' and Pettinkoffer, a celebrated German scientist, said he would undertake to swallow, and did swallow, a tube of cholera germs to prove the falsity of Koch's claims, and thereby nearly lost his life. After his recovery he was magnanimous enough to acknowledge Koch's discoveries, and to give him full honor therefor.

In 1885 Pasteur, one of the most brilliant men that ever lived, a chemist and not a physician, did the greatest thing for medicine that the nineteenth century witnessed. He demonstrated the immunizing treatment for rabies and inaugurated serumtherapy.

By the discovery of cells and germs, the microscope came into its own as an instrument of real scientific value. The stethoscope was just coming into general use, and I well remember my first one, used in my student days. It was turned out of one piece of cedar and about six inches long. Also I remember the first clinical thermometer used in the Montreal General Hospital. It was about sixteen inches long, fastened to a scale, with the end containing the mercury bent at a sharp angle so that it lay snugly in the axilla while the body of the instrument lay upon the breast of the recumbent patient. It was truly a fearful and wondrous instrument. Later in my time, instruments of precision came to aid the clinician—the sphygmograph, the sphygmomanometer, the counting chamber, the hematocrit, the hemaglobinometer and many lesser aids to medical science.

In the '90's came the era of the womb-slitters, made possible by the perfection of the speculum. There was a time when every doctor owning one of these instruments was slitting the cervix uteri for all female troubles. These were followed by the menders—with much language.

Next came one of the most important aids to the modern surgeon—the Roentgen Ray—or so-called X-Ray, discovered by Wilhelm Konrad Roentgen in 1895, which bares men's inner secrets. Radium followed in its footsteps. And so we progress.

Next I will speak of the fads and cults in medicine which have sprung up in my time. The Thompsonians, founded by Thompson, of Massachusetts, which afterward developed into the eclectic school, was just coming into vogue about the time I became a student.

The homeopathists, founded by Hahnemann in Germany, was attaining a hold upon the American public at the same time.

Next came osteopathy, founded in 1874 by Dr. A. T. Still.

Following this in the latter years of the century came Christian Science, evolved (by the much-married Mary Baker Glover Patterson Eddy) from the foolish emanations of the addled brain of a paranoiac.

Next comes the natureopath, and then the crowning joke of all—the Chiropractor—who can cure typhoid fever, diphtheria, cancer, gonorrhea, syphilis, or any other old thing, with the chiropractic thrust. It is to laugh!

But, gentlemen, I see a better day coming. The Homeopaths now require almost, if not quite, as thorough a scientific training as the regular profession and are becoming as broad-minded as science can make them.

The Eclectics are also approaching nearer and nearer to us in their standards, and within another lifetime, like my own, will stand side by side with us. The Osteopaths also are requiring a better education and are demanding a thorough training in anatomy and physiology, especially, and will ultimately blend with us.

But the Christian Scientists and the Chiropractors are simply ulcers on medicine and must have their day, until they die out, which they undoubtedly will in the not too distant future. It costs nothing to become a Christian Science practitioner, and any waiter, farm-hand, laborer, etc., who can command $100 to buy a diploma, can become a Chiropractor.

The Serologists and Organotherapists should also be mentioned, as they have both got quite a standing, both in and out of the profession. Some of these theories have a real value, but most of them prove to be duds.

And now we are in the midst of the Endocrinologic craze and the era of Vitamines. We will spend a moment over these before closing. The latter class seems proven, although they do not yield their secrets to either the chemist or the microscopist, but they do their work! That is the point; selah.

But the Endocrinologist needs the hobbles of caution put upon his enthusiasm until much more research is made. The giant, the midget, the fat boy and the human skeleton are regarded now as victims to their own glands, and hopes are entertained that these processes can be controlled and the ancient mysteries of disease will be explained, so that what have been considered hopeless cases can be satisfactorily treated. But the realm of endocrinology has not been well explained as yet and the bold adventurer in its mazes is liable to become lost, or to do much damage to his fellow man. The conditions of the body that control these glands of internal secretion are still almost entirely unknown. As yet only two endocrine products are chemically known—thyroxin and epinephrin. The latter is very potent intravenously, but inert when swallowed. Until we know more about them all, we can not be sure that they are not altered or destroyed in the digestive canal. Therefore, why talk about Hormones? Again, to what degree is substitution therapy possible? Its value has been proved in thyroid deficiency, but it is useless in pancreatic diabetes.

Often the Organotherapist is justified by the

patient's expression of added well-being, or by disappearance of subjective symptoms—criteria of uncertain value. The facts should be faced that endocrine physiology is unproven, despite positive statements to the contrary. Every medical publication vaunts the use of some endocrine fad, even down to gland transplantation. Credulity rules mankind. "There is a sucker born every minute," it has been said, with, unfortunately, much truth. This opens the door for exploitation of the medical profession by charlatans, quacks and unscrupulous manufacturers. Medicine is humiliated by accepting, as gospel, every claim made with sufficient positiveness.

However, I do not wish to condemn endocrinology, nor to lessen the just claims that it has earned, but I do ask you for a proper scientific attitude toward the data that are advanced.

And now I have gone over my fifty-odd years in general practice, necessarily omitting many discoveries that have come to the saving of human life and well-being, during that period, and trying to keep down my own personality, but I can say with Virgil's hero, *"Pars fuit erat."*

Believing that our work is all the better for a little play, I will conclude with something in a lighter vein. I will give you a few verses written by myself on

THE OLD PRACTITIONER *

The old Doctor's getting older every year.
We watch his failing powers, year by year.
His step is growing slower;
His head is bowing lower,
And we note his lessening vigor, year by year.

His eyes are growing dimmer, year by year.
His legs are getting slimmer, year by year.
He has a tremble in his voice,
And his breath it makes more noise,
As he toddles down life's pathway, year by year.

His teeth are dropping out, year by year.
His false ones rattle about, year by year.
He mumbles at his food,
His digestion is not good,
And dyspepsia grips him harder, every year.

If you think he is down and whining, owing to years,
You've got another think a-coming, for this year.
For he's just as good at poker,
And the same old jolly joker;
He's a fighter from away back, through the years.

His mind is, maybe, duller, year by year.
But his experience is fuller, every year.
In his finger-end's an eye,
That your inner ills can spy,
And he makes better diagnoses, every year.

When the young men make their blunders, all the years,
The old cock stands by and wonders, year by year,
At the things they think they know,
That so surely are not so,
And knows that they'll grow wiser with each year.

So he's growing old and older, every year.
He sees his finish nearer, every year.
Gray hairs are getting thicker,
Has less capacity for licker,
And he's worse and worse a kicker, every year.

In his every fault we love him, through the years.
There are none that rank above him, in the years.
Soon the Lord will call upon him,
With his good and bad traits on him,
And he'll go to join his fathers for all the years.

* These verses were read before a few guests at a dinner in Coronado, some time ago, but never before published. (Rights reserved.)

The foregoing verses will apply to all of you, as pass the years.

INDUSTRIAL MEDICINE AND THE GENERAL PRACTITIONER *

By GAYLE G. MOSELEY, M. D., San Francisco

The treatment of industrial accident cases by the general practitioner has not proven satisfactory to either the physician or the insurance carrier. All of the causes of this dissatisfaction need not be considered at this time. The problem that presents itself for consideration is the bringing about of a better relation between the physicians and the insurance carriers, and securing co-operation instead of antagonism.

The general practitioner is an important factor in the furnishing of medical service to the large group of people covered by the Workmen's Compensation Law. The further trend of medical service in industrial accident cases will be largely determined by the attitude and the service rendered by the physician in general practice.

Whether or not industrial work will be more widely distributed or more centralized than it is at the present time, depends entirely upon whether or not the physician in general practice takes sufficient interest in these cases to give good service and furnish promptly the reports that are necessary for the insurance carriers to properly conduct their business.

If the doctor treating an industrial accident case will do three things he will rarely have cause for complaint.

First—Is to send full report of the accident promptly to the insurance carrier, as a doctor's report is the basis on which the case is handled, and is necessary before compensation can be paid.

Second—Not to attempt to continue to treat cases that should be in the hands of a specialist. All cases of eye injuries and severe fractures should be treated by specialists in those respective lines, and there is nothing that gives an insurance carrier a better opinion of a physician in general practice than to have him write in and suggest that a serious injury be placed in the hands of a specialist.

In private practice the physician does not hesitate to ask for consultation or refer a case to a specialist, but in industrial accident work a request for consultation is very rare. The physician that immediately refers serious cases to the insurance carrier inspires confidence, with the result that the insurance carrier will feel safe to leave any case in his hands, knowing that the doctor recognizes his limitations and can be depended upon to act accordingly.

Third—Is to send in a bill for services rendered. If this is sent in according to the established fee schedule, being careful to note on the bill the reasons for any unusual charge, or charge in excess of that allowed by the fee schedule, the bill should be paid promptly.

The physician should be extemely careful, however, to make out his bill strictly according to the fee schedule, as the medical expense is a fixed amount, being a definite proportion of the premium collected for each risk.

* Read before the Section on Industrial Medicine of the Medical Society of California, Yosemite National Park, May 15, 1922.

If the medical expense is in excess of the allowance provided by the rates on that particular risk, the business immediately becomes unprofitable. Because of the fact that some think that the fees allowed for treatment of industrial accident cases are too small, there has been a tendency to take advantage of the fee schedule and make charges for unusual amount of time and dressings. Sometimes on examining X-rays that were not extremely clear, the physician has been able to see a chipped bone or a slight discoloration, where further X-rays showed a normal condition.

The expense of physiotherapy is another item which gives promise of causing trouble between the physicians and the insurance carriers. Physiotherapy is necessary and helpful in many cases, but should not be used as a means of increasing the medical expense in industrial cases.

The medical cost in workmen's compensation insurance is an economic problem, and the organized medical profession should co-operate with the insurance carriers to make this expense as reasonable as possible, and at the same time be fair to all parties concerned.

The first consideration must always be service to the injured employe, and the profession should go on record as favoring better service for industrial cases, just as they have gone on record for the betterment of hospitals.

In case of a controversy arising as to the amount of a medical bill, or any other question with reference to an industrial accident case, the matter should be promptly referred to the office of the State Medical Society, and their opinion or ruling should be cheerfully accepted by the physician. The establishment by the society of a department to arbitrate matters with reference to industrial practice, is the first real constructive work that has been accomplished by the medical profession since the passage of the Workmen's Compensation Law.

If the individual physician will work in harmony with the medical society and not be influenced by a few whose main mission in life seems to be to stir up strife between the physicians and insurance carriers, many of the troubles and misunderstandings will be a thing of the past.

(333 Pine street.)

Putting "Jazz" into Medical Book Publishing—Some of the advertising and propaganda methods of some of the medical publishing houses may be read best to the tune of a "jazz" orchestra. They read like an advertisement of "Yeast," "vitamins," "pink pills" or the "miracle man." They appeal to the cupidity of the physician, and they claim to be "new stuff," which probably accurately describes many of the books which physicians are asked to buy and consider as authoritative. In answer to many questions from physicians about the value of various books, the Journal makes two suggestions to our members: Don't bother about a book that is advertised by the "direct-by-mail" method, and don't bother about one until you have seen a number of reviews of it in medical journals, whose review pages are not influenced by a "complimentary copy."

PHYSIOTHERAPY IN THE TREATMENT OF THE CHILD WITH RHEUMATIC FEVER *

By EDITH BRONSON, M. D., San Francisco

Children suffering from the rheumatic cycle of affections, acute arthritis, carditis, and chorea, occupy a number of days of hospital beds disproportionate to the actual number of such cases admitted. After a period of acute illness, many a child ceases to improve and settles into an invalid state. Nutrition and musculature degenerate, and of even more importance, the weariness of discouragement is added to the actual physical disability. The unconscious attitude of the physician to the chronic cardiac is too well registered on the sensitive nervous system of the child. Finally a bed can no longer be spared, the child is allowed to sit up, perhaps walk about, and is sent home, physically incapacitated and mentally discouraged.

The purpose of this paper is to report an effort to shorten the hospital stay of the rheumatic child, to prevent the physical disability of prolonged confinement in bed, and to have the patient leave the hospital in posture and general physique, superior to the average untrained healthy child. Finally we have been attempting to help the child to remain keen to improve, during the difficult adjustment stage in his own home.

In the treatment of acute cardiac disease, too often we can not prevent impaired function in the heart itself. Healing in damaged valves and muscles, as healing elsewhere in the body, takes place by fibrosis, and the presence of non-elastic fibrous tissue in an organ whose function depends in a peculiar degree on the elasticity of its muscle, causes an unavoidable permanent injury. We have escaped from the interpretation of the functional disability following such injury, by the presence of the signs of valvulitis. The function of the heart as a whole is being studied. Gradually we are beginning, I may better say returning, to the study of both the pathology and function in an organ in its relation to the physiology of the individual as a whole, and to his adjustment as a member of society. Of the greatest importance it is, that we consider in the physiology of the circulation, the interchanging balance between circulatory, respiratory, metabolic, and nervous systems. What physiotherapy attempts to do is to preserve and increase the usefulness of these compensating functions.

In whatever ailment, physical treatment may be applied, whether to postural defects, or to cardiac insufficiency, the principles for success remain the same, and for them we have to thank the experimental physiologist. An attempt to treat cardiac injury in itself by physical methods, would be like attempting to treat acute rickets by putting plaster casts on the child's legs. For success the individual as a whole must be the object of therapy.

Probably each observing physician has developed a method of his own for estimating cardiac effi-

* Read before the Pediatrics Section of the Medical Society of California at Yosemite National Park, May 17, 1922.

ciency, but we live in an age of classification and standardization. Exact measurements are taking the place of clinical opinion. Efficiency tests, the significance of the measurements of the vital capacity, the interpretation of changes in pulse and blood pressure, are being studied in cardiac clinics. If such methods are used to develop clinical judgment, the patient will be better cared for. There is a danger that, as the results of researches are standardized, the standard will be applied without due regard to the individual patient, and will increase the present tendency to turn the physician into an expert manipulator of machines. Tests of function and methods of treatment are of value to the patient only when utilized with observing and sympathetic judgment.

I have made these digressions upon the subject to which I am assigned, partly to justify myself for the rather narrow outlook which I may seem to take in the actual work which I am reporting.

By carefully graded exercises we have been able to shorten the hospital stay, and improve the exercise tolerance of cardiac children. An outline of the method of treatment which we have gradually evolved is presented below.

PHYSIOTHERAPY IN THE TREATMENT OF CHILDREN WITH RHEUMATIC FEVER

CARDITIS

First Stage (10 minutes twice daily)—To be started as soon as pain subsides:

1. Effleurage to arms and legs.
2. Teach **correct** breathing. When possible include abdominal massage for five minutes.

Second Stage (20 to 25 minutes daily)

1. Effleurage and light petrissage (to extremeties and back or abdomen).
2. Passive arm movements with breathing.
3. Passive leg movements—gradually adding active ankle and knee flexion and extension.

Each exercise to be done from three to five times.

When possible increase active work. Do one arm, including exercises, before massaging the next. In bad cases do arm, then leg.

Third Stage (30 to 40 minutes daily)

1. Massage (medium) general.
   (a) Effleurage, petrissage, friction, tapotement.
2. Light resistive and increase gradually.

Exercise given for every joint movement and each exercise repeated three to eight times.

3. Deep breathing.

Fourth Stage (40 to 45 minutes daily)

1. Active exercises in bed.
2. Start standing—**teach posture.**
3. Heel raisings, arm exercises with breathing for a couple of days, then add trunk bendings and twistings and leg exercises gradually increasing at the rate of one to two daily.

Fifth Stage (45 to 60 minutes daily. According to age and strength of child)

1. Vigorous exercise, including stair climbing, running and jumping.

CHOREA

First Stage—To start immediately on admission to hospital:

1. Effleurage to extremities and back or abdomen.
2. Teach breathing as soon as possible.

Second Stage

1. Effleurage and light petrissage (to extremities and back or abdomen).
2. Passive movements combined with breathing.
3. Assistive, active exercises.
   (a) For co-ordination.
   (b) For re-education.
   (c) For rhythm.

Third Stage

1. Massage (medium) general (no tapotement).
2. Active exercises with breathing.
3. Active exercises especially for back (assisted at first).
   (a) For co-ordination.
   (b) For re-education.
   (c) For rhythm.
4. Chorea tests.
5. Singing vowel sounds.

Fourth Stage

1. Active exercises in bed.
2. Start standing, **teach posture.** Begin with easy exercises and gradually increase, not allowing an unassisted movement until child has balance and confidence.
3. Continue 4, 5 and 6 of Stage Three.

Fifth Stage

1. Vigorous gymnastics. Prepare to go home.

We have tried to make the system as elastic as possible. A "stage" may last less than a week or several weeks, according to the condition of the patient. Again, we have not been able to state definitely when physiotherapy should start. In the type of rheumatic fever in which a high temperature and an acute arthritis subside rapidly under treatment, the first stage of physiotherapy is started as soon as the pain and swelling have disappeared. If, however, we should always wait until there were no rise in temperature, we should deprive of massage and passive exercise, the type of cardiac child who has at no time a high fever or acute arthritis, but who for months may run a low grade septic temperature curve—the subacute chronic rheumatic child. Such a patient is in the greatest need of physical training. On the other hand, a child with no rise in temperature may be suffering from a degree of cardiac failure which may contraindicate the gentlest of massage. Clinical judgment must be used as to when to start physiotherapy, as well as when to pass from one stage to the next.

During the first three stages the patient is carefully protected from exertion of any kind except that which accompanies the exercises. He is fed by the nurse and encouraged to do nothing for himself. It is a well recognized fact that the ordinary routine of work, for example, that of the housewife, brings weariness without giving training to the physiological functions. The training of the athlete is accomplished by increasingly severe muscular exertion interposed with periods of complete relaxation. Co-ordination of respiration with muscular contractions is imperfect in the untrained individual as contrasted with the trained. The training of the cardiac child is essentially the same as that of the athlete. He is first of all taught relaxation, taught how to rest, taught how to breath as a means of improving his vital capacity, and how to breathe rhythmically with the passive arm and leg movements which

are gradually added. In passive movements attention is given to counteract the tendency to tendon tightening which is so frequently a sequence in all chronic illnesses. The length of the period of exercise is increased gradually, as well as the degree of work. By the end of the third stage the type of massage has become vigorous, especially to the abdomen and back. Friction and tapotement as used probably produce tendon and muscle relaxation not unlike that secured by certain of the cults in their manipulations. Resistive now take the place of passive exercises. These require voluntary effort, yet effort which is under the control of the technician. Though by the end of the third stage, it is not infrequent to have produced muscular hypertrophy, the predominating effort has been to teach relaxation and co-ordination.

The pulse, respiration and systolic pressure are taken daily by the technician, before and after exercise, and again in two minutes. Once weekly the physician is present throughout the period of treatment taking the systolic blood pressure to note the type of curve, and to make observations on the child's general reaction. Up to the end of the third stage, rarely does the pulse increase more than fifteen or the systolic blood pressure rise more than ten millimeters of mercury.

By the fourth stage active exercises for arms, legs, back and abdomen are substituted for resistive. These are interposed with short periods of breathing. The child has now learned rhythmical breathing. He begins to stand and is taught first of all, posture. A correction of postural defects has been emphasized throughout the previous stages. Probably no other word has this importance in physiotherapy. Postural training not only increases the vital capacity, diaphragmatic contraction and expansion, but it has a very definite relationship to the functional nervous system of the child. Setting up exercises develop "backbone" as well as muscle.

The fifth stage is a preparation for the activities of home life. The attention to posture and breathing is carried into such exercise as climbing stairs and running and jumping. The ideal is to have the child leave the hospital a trained individual, able to do the routine work of his childhood with co-ordinated and not wasted effort.

Not all children with corditis ever reach the degree of physical well-being which I have pictured. Those unfortunates who, after months of illness, are left with a developing stenosis, damaged muscle, and adherent pericardium, may pass their lives, usually of only a few years, unable to perform the equivalent of our fifth stage of exercises. Even in these crippled children, the trained use of the compensatory functions has surprised us in the results obtained. With the co-operation of intelligent parents these children, leaving the hospital able to take only the third stage of exercise, may continue to improve so that they can carry the burden of school life, and in a narrowed sphere, lead a useful existence. Reinfection, rather than over-exertion, is to be dreaded. Their course of training has taught them when they should rest, as well as how to make the ordinary duties of life exercise, rather than work. Our failures have been from environment adjustment, rather than the actual condition of the child. The crying need for such children is a cardiac convalescent home. After a period of hospital care improvement may cease. Children with acute illnesses come and go, the cardiac child remains. Unless his own home is exceptional such a child should continue his treatment in a home with his own kind, with games and school suited to his endurance. As a problem of preventive medicine, the rheumatic cycle child needs the same careful study as the child from a tuberculous environment.

I have used the title "Rheumatic Fever" advisedly, so as to include that manifestation of the rheumatic cycle called chorea. If chorea is associated with arthritis and carditis, the treatment is the same as for these with the addition of special co-ordination and educative exercises. In uncomplicated chorea treatment starts the day following admission to the hospital. The usual routine of quiet and isolation is enforced. No sitting up is allowed, no book or plaything. The teaching of relaxation is especially valuable here and assistive movements controlled by the technician give the child confidence. So far as I have been able to observe, no specific cure, such as is not infrequently seen, if some acute illness like influenza or measles intervenes in the acute stage, has followed physiotherapy. However, in rather frequent instances, a time comes when chorea as an "infection" has passed, but the "habit" of chorea remains. In such cases the work of the physiotherapist in re-education, is of inestimable value. The ideal would be for a full-time technician for each child, to assist in his play, at his dinner, and in all the ordinary duties the performance of which he must relearn.

In conclusion, we are able to state that after even severe rheumatic infection, a child wisely treated by physiotherapy reaches the stage of convalescence with a posture and muscular development superior to that previous to his illness, and that he leaves the hospital physically trained to use to the best advantage the functions compensatory to his cardiac injury.

I have to thank Miss Boville, physiotherapist, for her enthusiastic co-operation in this work.

(240 Stockton street.)

Rejuvenating Roués—In a recent Sunday edition of a California paper, in a department advocating free organ recitals, religious ceremonies and fakes, we find under prominent display some more purported news about how old broken-down roués may be restored to youth, and even how their white hair may resume the color of youth and their wrinkles fill out under the skin under the latest goat gland operation. The article in question indicates that it is a Universal Service report from London. It takes up a further exploitation of "Professor" Steinach's operation. The article goes on to say that "Professor" Steinach is kept busy rejuvenating elderly men and women. It states that after the operation "white hair turns to its natural color, wrinkles fill out and take on fresh color." Further quotation from this article is: "In England interest in the rejuvenation craze subsided about the beginning of the year, when an old man who returned from Paris after treatment died on the day he was announced to give a lecture on his recovery of youth." ????

EDITORIALS

TRAFFICKING WITH HEALTH

(Considered and approved for publication by the Council of the State Society, September 8, 1922)

The time has come for some plain speaking. On November 7 the citizens, or more correctly the voters of California, are going to decide the character of medical education, medical practice, hospital service and public health regulation, they wish applied to themselves and their children during at least the next few years. They are going to decide whether education or ignorance shall be the standard under which they will protect the health and welfare of their families. They will determine whether adequately educated law-abiding citizens shall treat them when they are ill, advise them in methods to protect themselves and their families against the invasion of contagion and pestilence, or whether these services are to be relegated to the uneducated, or to the lawless, or to those anti-health charlatans who are openly and flagrantly attacking the standards of experience and education that have been built up through the ages.

We do not believe the time has come when the educated physician must apologize for being educated, or perchance take his orders and laws from ignorant or inadequately educated cultists as health officers, directors of hospitals, and as heads of educational institutions. Should lawlessness and ignorance win in the November election, there will be no legal excuse to maintain the great medical schools of the University of California, of Stanford University, or of the College of Medical Evangelists—the three principal sources of supply of California physicians of the future. These three schools cost the people of the State more than two million dollars a year, and one of the arguments made by some of these cultists is that most of this money could be saved.

Should they win there will be no reason for continuance of the State and municipal health boards nor for health and quarantine laws based upon scientific knowledge of the nature and spread of disease, and enforced for the protection of man and animals. These cultists do not believe in scientific bacteriology or the proven causes and courses of disease. All of the twenty-seven varieties are based upon disproved, unsound theories without a foundation in fact. Some of their fundamental claims are based upon false conceptions of the elementary facts of anatomy and physiology.

The various cults have about thirty so-called schools and colleges in California claiming to prepare students to teach and to practice the healing art. Did you ever see one of these schools? Do you know what they teach; how much; and for how long; and what the actual entrance requirements for students are? Did you ever examine a list of the faculty of one of these schools and compare it with existing educational university standards? If you are an interested citizen, you should do some of these things.

If all the legitimate assets and all of the equipment of all of these schools were combined, they would not have enough to fulfill the legitimate requirements of one school adequately equipped to prepare students to diagnose disease, and discuss and practice the healing art upon an adequate scientific basis. Some commercialized quacks are openly attempting to get charge of the hospitals of the State because, as they assert, with the application of their Science (?) to the patients, the hospitals would soon be empty and much of the millions of dollars they are costing would be saved the taxpayers.

Some people, including a few physicians, health officers and educational officers, profess not to see the dangers in this situation. They are imitating the ostrich, and a very few have allowed their cupidity to obscure their ideals and befog their intelligence. A very few physicians are heard to say, "Why bother about the Chiropractors and the Osteopaths? The more cultists there are, the more business *in the end* for physicians." Thank God, there are but few such in our ranks. When you find one, examine carefully and you will find him connubiating with cultist "runners" or you will find a man whose ideals, ethics, love of his profession and of mankind have turned to brass and tinkle like a cymbal. For over a year and at the present moment certain of these cultists are making strenuous efforts, backed by the power of their political machine and by exhaustive and expensive advertising propaganda, to get on the staffs of hospitals, and their greatest efforts are to control the State, county and municipal institutions. These institutions are considered more vulnerable because, in most instances, they are administered by government officers, sometimes susceptible to political influence. They aim to get in by political power just as they aim to have education legislated into them and a license to practice placed in their hands. If they win in the forthcoming election, why not?

They already have students from among our disabled veterans of the World War studying (?) in their colleges (?) and their tuition being paid for out of your taxes. One of these so-called schools has more government students than have all the legitimate medical schools of California.

The physician who can view the efforts of cultists of one kind and another to destroy the standards of medical education, the practice of medicine and public health without using every effort to combat their activities, forgets his duties as a citizen and misinterprets the greatest function of the true physician. During epidemics the physician works overtime to instruct his patients and friends in the methods of prevention. These organized cults are more menacing to the public health than an epidemic. We may differ in opinions as to the best methods to counteract this menace, but we cannot evade the responsibility of doing our best, both as physicians and as citizens, to protect our fellow citizens against it.

The League for the Conservation of Public Health, by delegation the Section on Medical Economics, Hospitals and Public Health of our State Society, is recognized as our representative

in these matters. Some of their arguments and suggestions are published in this number of the Journal. These and others to be furnished later, as well as the campaign of education proposed by the League, have the unanimous approval of the Council of the State Society. The Council requests all physicians, hospitals and medical agencies to do their duty under the leadership of the League, with the understanding that our campaign is for the betterment of the health of the citizens of the State, and is for the good of us all as citizens.

Physicians and Hospitals of California: In the interests of public health and safety, urge the citizens of your communities to vote No on Anti-Health and Anti-Education initiatives, numbers 16, 20 and 28.

PHYSICIAN OR SANITARIAN?

(Considered and approved for publication by the Council of the State Society, September 8, 1922)

Under this title and commenting upon the report of Mr. George E. Vincent, president of the Rockefeller Foundation for 1921, we read in the editorial column of "Current Opinion," September, 1922:

"The fundamental delusion of the medical profession is that it makes a living from diseases. It studies diseases. The library of disease is enormous. But the real scientific approach to the problem of human welfare is through the study of health and the prevention of diseases. The sanitarian, after all, is a more important advance agent for the millennium than the physician."

This quotation is worth reading again. Press clipping bureaus bring large numbers of other comments that go much farther than this. And where is this one going? Read it again. It is statements of this character and the report of the character of Vincent's that is helping the chiropractors and other cultists, working from another angle, to convince the uninformed people of this country that educated physicians, trained in pathology and in the diagnosis and treatment of disease, are little better than artisans, secondary in importance to the newly created "sanitarian." It ought not to be necessary to belittle the physician nor the methods of his training in order to create a new specialist who, after all, at his best is only a physician. Everyone will applaud legitimate efforts to improve the preventive medical work and the saving of suffering by disease and the prolongation of life. This always has been and is considered by every physician one of his most important functions. It is also a function that never has been discharged and never will be discharged effectively for the great mass of people in any other way than by the physician who is trained in the sciences, arts and humanities necessary for effective work in his field. If the people who are interested in developing public health at the expense of physicians succeed in reaching their goal, what is going to become of the twenty to thirty million people who are sick every year in the United States? The millennium, as propounded by Vincent and other lay doctors, when our efforts and money will be devoted principally to the prevention of illness because there will not be any illness, is a long way off, and it is doubtful whether anything more than a very short step has been taken during the last decade in the direction of that millennium.

FOLLOWING FALSE GODS

(Considered and approved for publication by the Council of the State Society, September 8, 1922)

Physicians of California are getting pretty much "fed up" on itinerant medical evangelists from "the East." Some so-called "Big Men" of our profession find the sphere of their influence too much cramped by their own territory. By proper angling they secure invitations from organizations in California and other western States and make the circuit periodically. In many instances they come preaching medical and public health socialism and usually they are personal propagandists of a familiar species. Their audiences in California are of the same general classes as their followers back home.

There is a serious side to their activities. They influence a certain element, particularly among the younger and more inexperienced physicians, and they are the final authority for lay doctors and uplifters, because socialistic theories are always appealing. The majority of these specialists are opposed to policies of the medical profession, and openly advocate movements that are calculated to make physicians assistants to or "co-operators" with, the self-constituted lay leaders of medical and public health practice.

One of these physicians is reported to have said recently, in effect, that medical social workers should align themselves with the lay social movements and avoid too close contact with the medical profession. Another one has been preaching the same general principle to public health nurses, medical social workers and other technicians. Most of them think much of the title of sanitarian and belittle the physician who is only an M. D. These men usually are quite successful as publicity agents for themselves, and when they are about, the press acts as if the discoverer of a new cancer or tuberculosis cure had just arrived direct from Vienna and the ether waves from the broadcasting stations D. O. and D. C. dance with delight.

The climate of California seems to stimulate these medical evangelists and personal profiteers, and their froth bubbles away faster than it does even in their home towns. It is fortunate for some of them that physicians of the Golden West have a sense of humor.

SUBSIDIZING CULTISM

(Considered and approved for publication by the Council of the State Society, September 8, 1922)

Subsidy constitutes one of the best methods of control of any movement, organization, method or person. It is probably the third most effective of all methods of control, the other two being direct financial control and political control.

All of these methods are extensively applied in medical and public health matters. They are all being extended rapidly in all things medical. It is difficult to say which will prove the most disastrous in the long run—political or subsidy control. It was formerly quite generally thought that noth-

ing could be worse than political control, but with the phenomenal spread of subsidy control of medical education, medical practice and public health into the hands of a few men representing Foundations, and as the dangers of this method become more palpably apparent, many are beginning to wonder what the end will be.

Many organizations, institutions and movements have cheerfully invited subsidy and are continuing to do so without looking beyond the immediate future.

Some recent developments in the gilded fields of subsidy are likely to focus attention on the whole problem. In several instances, misguided philanthropists have offered generous subsidies to institutions in California under the conditions that they provide departments for some cult. We do not know of an instance where such throttling conditions have been accepted. The offers in some instances have attractive coatings designed to deceive. Donations and subsidies look attractive, but in both instances it is well to look carefully at the "strings" before accepting one.

THE HOSPITAL CONVENTION

The Second Annual Convention of the Hospitals of California was held at the Maryland Hotel, Pasadena, September 5, 6, 7 and 8, under the auspices of the League for the Conservation of Public Health. The slogan of the convention was that of the hospital betterment work of the League

"To promote and maintain more and better hospitals wherein educated physicians may render better service to every citizen of every community of California."

From whatever angle viewed, the convention was a striking success. Over three hundred hospitals were represented by over eight hundred delegates and other interested persons. The program as printed was carried out with but few minor changes, and the audience remained intensely interested and even enthusiastic throughout the four days of almost constant discussion. The policy initiated last year at the First Annual Convention was maintained, by which written papers were avoided and the discussion of problems of vital interest to hospital people was substituted.

Both the commercial and scientific exhibits of the convention were of a very high order, instructive and useful.

A number of important resolutions were passed and these, together with a full discussion of the convention, will be published in full in the next number of "Better Health."

The Council of the State Medical Society held two meetings at the same time and place, and there was one meeting of the Council with the officers of the various county medical societies and the section officers of the State Society.

THE ENLARGED JOURNAL

With this issue the JOURNAL enters another stage of development by the addition of 16 more pages, thus increasing the size from 100 pages to 116 pages. This improvement has been made possible by increased advertising and increased subscriptions. Suggestions for further improvement are invited from members and subscribers.

Are Physicians Required to Report All Accidents to the Industrial Accident Commission? (Opinion by Hartley F. Peart, Chief Counsel State Medical Society.)—Some time ago physicians were informed by the Industrial Accident Commission that they were required by law to report all accidents attended by them to the Commission. The Council of the State Society asked Chief Counsel Peart for an opinion as to the legal right of the Industrial Accident Commission to impose this extra work on physicians. Mr. Peart's opinion is as follows:

"Referring to your request for an opinion as to whether or not the Industrial Accident Commission of California is authorized by law to require physicians to report the details of all accident cases which they may be called upon to attend, I beg to advise:

"That Section 21 of the Constitution as amended November 5, 1918, authorizes the Legislature to create and enforce a complete system of workmen's compensation and to create and enforce liability on the part of all persons to compensate any of their workmen for injury or disability incurred or sustained by the workmen in the course of their employment.

"Pursuant to such constitutional authorization the Legislature has passed various Acts. The present Workmen's Compensation, Insurance and Safety Act in its introductory section states that it is intended to make effective and supply a complete system of workmen's compensation, using substantially the language of the Constitution in reference to injuries and disabilities 'incurred by employes in the course of their employment.'

"'Injury' as used in the Act is defined to mean any injury or disease arising out of the employment.

"The compensation provisions of the Act refer to any injury sustained by the employe arising out of and in the course of the employment, and it is clear that the injuries and disabilities referred to in the Constitution and the Statute are only those of employes in the course of their employment.

"In Section 16 of the Act it is provided that 'any physician who shall make or be present at any such examination (an examination where the right to compensation exists in favor of any employe) may be required to report or testify as to the results thereof.

"In Section 19 relating to evidence, it is provided that in the case of the death of an employe 'the Commission may require an autopsy, and the report of the physician performing such autopsy may be received in evidence.'

"Under the safety provisions of the Act and in Section 53A, it is provided that 'every employer of labor, without any exception, and every insurance carrier and every physician or surgeon who attends any injured employes, is required to file with the Commission under such rules and regulations as the Commission may from time to time make a full and complete report of all injuries to an employe arising out of or in the course of his employment,' etc.

"From the foregoing, I conclude that the Commission is not authorized by law to require reports of physicians and surgeons as to every case of accidental injuries or accidental death, which a physician or surgeon may attend. If the circumstances were such as to raise the question as to whether or not the person so attended was injured or killed in the course of employment, then a report should be made promptly, but your question as I understand it, is based upon a blanket notice addressed by the Commission to all physicians requiring them to report fully on all accident cases attended by them. In my opinion, the Commission has not the authority to require such universal reports, in all accident cases for the reasons above stated."

20	*NO. 20. Osteopathic Anti-Health Initiative.* Creates another Special State Board of Examiners composed Exclusively of Osteopaths for special interests of osteophatic colleges and graduates; comically calls itself "self-sustaining" whilst imposing many additional duties on state, county and municipal offices that necessarily create expenses which taxpayers must meet; provides very quick but very dangerous way to make physicians and surgeons of osteophatic graduates who fail to pass present easy State Examinations; grants Board perilous power to license drugless osteopaths to administer narcotics and attempt most serious surgical operations; nullifies present State laws which forbid ostepaths from administering opium, cocaine, morphine and other habit-forming drugs. Vote "No."	Yes	
		No	X

Education Cannot Be Voted Into Them

Two years ago the people of California defeated the osteopathic referendum by a majority of 209,000. This overwhelming verdict of the people emphatically endorsed the law prohibiting osteopaths from prescribing narcotics.

The California Legislature rejected the Osteopathic Act by a two-thirds majority after investigating the absurd accusations of "medical tyranny, injustice and incompetency" made by osteopathic partisans. This osteopathic act is a "misnomer." It has practically nothing to do with osteopathy. It is self-contradictory and wholly at variance with the well-settled definitions of osteopathy in Court decisions, in dictionaries and in osteopathic literature. In co-operation with the other two members of "The Obtuse Triangle" it would create two new Boards of Medical Examiners in California which would divide and confuse the licensing and regulation of physicians and surgeons and drugless practitioners.

It nullifies essential jurisdiction, duties and functions of the present State Board, repeals vital public health safeguards and educational requirements and grants a Board of Five Drugless Osteopaths the inconsistent and dangerous power of licensing osteopathic graduates, without adequate training and education, as physicians and surgeons.

Under the loose terms of this Osteopathic Act, all graduates of osteopathic schools and drugless practitioners graduated from osteopathic schools may be licensed as physicians and surgeons. This offers a very quick but a very dangerous way to make physicians and surgeons.

Osteopaths and Chiropractors base their demand for Special Boards on the erroneous claim that each has discovered "a complete system of healing." Chiropractic IS what osteopathy WAS. We must conclude that the failure of osteopaths and chiropractors to build and conduct hospitals in California is because hospitals form no part of their alleged "Complete Systems."

No physician and surgeon can be properly prepared without adequate hospital training. A little learning is a dangerous thing. Graduates of alleged "complete systems" with incomplete education menace public health.

What IS Osteopathy?

The Supreme Court of California decided: "License to practice osteopathy should not be deemed to authorize the practice of medicine and surgery—requirements for a license to practice osteopathy and for a physician's and surgeon's license have always been different." Another Supreme Court decision says: "Osteopathy administers no drugs; it uses no knife." The Standard Dictionary defines osteopathy: "The treatment of disease without drugs or knife . . ." The Society for the Advancement of Osteopathy says: "Osteopathy is the original science of spinal adjustment." The founder of osteopathy, Dr. A. T. Still, declares, "We are opposed to the use of drugs."

Since 1901 osteopaths have been examined and licensed to practice their drugless method in California. Any osteopathic or other drugless practitioner who has adequate education can now secure a physician and surgeon certificate by passing the higher examination required for physicians and surgeons. During the past eight years 48% of the graduates of osteopathic schools who have taken this examination have failed to pass. In impressive contrast—100% of the graduates of the University of California, of Stanford and the College of Medical Evangelists have passed.

If thousands of untrained "48% graduates" with no hospital preparation or surgical experience are turned loose in California with the unlimited license to prescribe the most dangerous drugs and perform the most serious surgical operations, the damage they can do is immeasurable.

The "48% graduates" need more education, not more Examining Boards. Education can not be voted into them.

Vote "NO" on Anti-Education Initiatives Nos. 16, 20, 28.

COUNTY NEWS

ALAMEDA COUNTY

Del Valle Farm for Tubercular Children—This health farm is operated by a board of directors of which Miss Annie Florence Brown of Oakland is president. Miss Lillian O'Neill, a nurse, is the executive officer. A movement is on foot to further develop this farm and bring it in as a unit of the Alameda County consolidated health program.

FRESNO COUNTY

Fresno County Medical Society (reported by Thomas F. Madden, secretary)—The regular meeting of the Fresno County Medical Society was held at the Commercial Club September 5, 1922. The following members were present: Miller, Tillman, Cross, Montgomery, Aller, J. R. Walker, Kjaerbye, Brown, Pettis, Bell, Sciaroni, Goldberg, Schottstaedt, Mitchell, James, Konigmacher, Trowbridge, Ehlers, Avery, Broemser, Jamgotchian, Milholland, Webster, G. W. Walker and Madden.

James E. Pendergrass of Clovis and Yervant Minas of Fresno were elected to membership.

Frank Hinman of San Francisco discussed "Tumors of the Kidney and Testes." Cross and Konigmacher also discussed the subject.

W. W. Cross, G. W. Walker, D. H. Trowbridge and Thomas F. Madden attended the meetings of State and County Society officers at the Maryland Hotel at Pasadena on September 8 and 9.

Regular meetings of the staff of the Fresno County Hospital were resumed on September 12. Luncheons of the surgical and medical staffs were also resumed.

Guy Manson returned September 6 from a visit to the clinics at Chicago. C. O. Mitchell spent the month of July at the Johns Hopkins Hospital in post-graduate work.

County Hospital Annual Report—The report of this hospital shows progress during the year. A school of nursing has been established. The students secure their academic work from the Junior College of Fresno. A staff has been appointed and organized into departments. The general staff meets once a month and the various departmental staffs each once a month. The report shows the total cost of operating the hospital for the year to have been $266,253.22 or $2.20 per "patient day." The average cost of meals was 19 cents each. There were 139 births and 275 deaths in the hospital. The number of autopsies is not included in this report. Average daily census of patients was 272 or a grand total of 99,280 "patient days."

KINGS COUNTY

Public Health Progresses in Hanford—Hanford has a new health officer in Dr. Albert G. Bower, who took office July 1. Dr. Bower, who has had considerable public health experience in the Army, is an enthusiastic organizer and he is working zealously for the development of a full-time health department in Hanford.

LOS ANGELES COUNTY

New Medical Teaching Center Contemplated—It is reported that the $10,000,000 campaign of the University of Southern California is receiving hearty support. Plans for the use of these funds include provision for a medical school and teaching hospital at a cost of $3,500,000. Dr. Wesley W. Beckett, member of the board of trustees of the University is quoted as saying that there is no place in the United States so far removed from a medical school as Los Angeles.

California Lutheran Hospital—It is reported that this hospital will shortly begin the construction of a nurses' home to cost approximately $250,000. The Anita M. Baldwin Clinic for Children building as part of the hospital has just been completed.

Pasadena Requires Examination of Food Handlers—During the month of July more than 550 food handlers were examined in the Pasadena City Health Department in accordance with the requirements of a local ordinance. Pasadena is the only city in California which requires that all handlers of foodstuffs must pass a satisfactory physicial examination, showing that they are not suffering from communicable diseases.

Pasadena Preventorium—This new venture is located on an eight and one-half acre tract of land. The building is to cost $35,000 and is to be erected shortly. The Preventorium will be incorporated under the laws of the State and will be conducted by the management of the Pasadena Dispensary. Mrs. Irving Sturgis is president of the organization.

MONTEREY COUNTY

New Hospital for Salinas—The Red Cross Health Center property at Salinas, Monterey County, has been sold to a group of physicians and will be converted into a hospital in the near future. Doctors E. W. and W. H. Bingaman of King City, A. S. Lineer of Soledad, W. Rollin Reeves, Edwin W. Reeves, D. B. Wylie, T. C. Edwards and J. A. Beck of Salinas, are the prime movers in this new enterprise.

ORANGE COUNTY

Santa Ana Hospital—Mr. A. B. Wastell has been engaged to do the promotion and organization work for the new Santa Ana Hospital. Mr. Wastell has just successfully completed a similar service for the people of San Jose and the San Jose Hospital is well on the road to completion.

RIVERSIDE COUNTY

Riverside Community Hospital—Mr. L. B. Saunders, formerly of Baltimore, has been appointed director of the hospital and is now on duty.

SACRAMENTO COUNTY

Flitcroft Hospital—It is reported that a new twenty-room hospital, located at 3014 M street, Sacramento, will shortly be completed by Arthur Flitcroft. The hospital is all concrete and brick construction and is being fitted up especially for maternity and surgical cases. The site for building represents an investment of $50,000. According to the report, it will be ready for patients in October.

SAN FRANCISCO COUNTY

San Francisco County Medical Society—Presentation of a portrait of the late Dr. Harry M. Sherman to the San Francisco County Medical Society (by his widow, Mrs. Sherman); address of acceptance by Douglas W. Montgomery, M. D.—Through the thoughtfulness of Mrs. Sherman we are presented tonight with an excellent portrait of her husband, the late Harry M. Sherman, so many years an honored member of our Society. The gift was accompanid with the request that it be hung beside that of his friend, George Chismore. And indeed, this is most appropriate and typifies a long and close friendship between two men having like professional ideals and like democratic views of government, and of social equality before the law, and who carried into their everyday life these same principles of fairness and justice, both to themselves and to their neighbors.

Sometimes, like a flash of lightning, a look or gesture will illuminate the relationship between two men. One day I happened to enter Chismore's room with Sherman. Chismore, who suffered a long, trying illness before his death, was in a reclining chair with that look of beatitude and peace which so transforms some elderly people. Sherman kissed the old man on the forehead, and the return look of affection I shall never forget.

As I went away, I reflected that these two men had known one another intimately for years, and in fact, had grown old together. A friendship such as evinced by them could only be the result of a mutual esteem, resting on honest, solid traits of character, which are only too infrequently met with in this rude world.

It is indeed sweet and commendable to give these mourning duties, which we are here this evening to fulfill, to one who throughout his active life never ceased to take a deep interest in the affairs of this Society. He, together with Philip Mills Jones and Dudley Tait, did more than any others to develop its ethical side, and to make the Society what it is, and to set it on its road for what it may become.

While industrious in developing the form and government of the Society he also was not slack in furthering its scientific work. Some of the best surgical papers I have ever listened to were contributed by him. He was notably a fine demonstrator of material, and I often delighted to compare his work in this assembly and in the Academy of Medicine with that of Adolph Barkan as I heard it in the German Medical Society. These two men presented their cases or theses excellently.

It is well that we should have these portraits of those who have gone before into the secret house of death, and it is to be hoped that in time we may have a dwelling of our own where they may be permanently hung. Such a habitation, with its stories of the past, is of inestimable benefit to the profession in developing a medical tradition and solidarity. With this solid background, a good organization and the will to do this Society may look forward to a bright future full of beneficent endeavor.

The portrait of Harry M. Sherman possesses a peculiar value to those who knew him, in that it truly depicts his character. It shows the open, straightforward countenance, with head held erect on a good neck, based on fine, square shoulders. No man I ever knew showed so clearly in his countenance the inner workings of his mind. There was nothing to hide, for he was the personification of frankness.

In speaking of his appearance an interesting incident occurs to me. Soon after his demise Leo Newmark, one of his sincerest admirers, sent me a photograph of the bust of Marcus Aurelius, the great, stoic emperor of Rome, inquiring if I did not find a certain resemblance between it and Anax Andron, and indeed, especially in the upper part of the face, both in features and expression, the likeness is striking. Anax Andron, or King of Men, was a name given to Sherman by Newmark, partly as indicative of his grand manner, and, more especially, to convey the sincere regard he had for his character and attainments, and for his integrity, which was carried to the length of being almost a peculiarity; and for the iron rule he maintained over himself. In this self-rule and in his determination to carry through any project he had undertaken he resembled his distinguished contemporary, the late Levi C. Lane.

It was a cruious fate that accompanied both these men, that the work that they most ardently wished to accomplish should be partly marred by associates who seemed absolutely incapable of appreciating their endeavors and purposes.

As an instance of the masterful way he had of managing himself, take his attitude during the war.

At a time of life when most men seek their ease and routine work becomes a drudgery, he devoted a large share of his time to the examination of recruits, and when he was given a commission he even gladly took it as being his duty, although it meant the closure of his office. His associate was also away in the Army, and he was fully aware of the serious effect any continuous absence would have on his affairs.

He accomplished a fine day's work for this Society, for the profession in general, and for himself. I say for himself, but in no selfish way, for he was one of those who entwined his general culture, with which he was well endowed, with his medical work, so as to embellish it and to make it a real part of his intellectual development.

We are here tonight to honor Harry M. Sherman, but honor is an external adjunct and pertains rather to the honoror than to the person honored. We can not do anything to change Harry M. Sherman, he has gone beyond the boundaries of time and space, but by honoring him a change is wrought in ourselves, and by a contemplation of what he was, both in excellencies of character and in the purpose and accomplishment of his work, we clarify our own souls and stimulate ourselves to follow his example. Truly death has no dominion over such a life.

Diathermy in Ophthalmology—In discussing this subject at the meeting of August 22 Kaspar Pischel stated: "While in the usual hot application the heat is applied to the surface only, in diathermy the heat is created in the tissues itself by alternating high frequency electric current. The temperature in the vitreous can be raised to 40.7 C. — 105.3 F. — without injury, thus creating a marked hyperaemia inside the globe, as proved by the albumen contents of the aqueous." Using Dr. Koeppe's book on "Diathermy of the Eye" as a guide, Dr. Pischel discussed the indications for its use and advised to try this new therapeutic measure. Many other valuable papers were presented to the Society during August and September, but abstracts have not been furnished the Journal.

St. Joseph's Hospital (San Francisco) Staff Meeting—At the August meeting of St Joseph's Hospital staff, L. Crow gave an interesting illustrated talk on "Early X-ray Signs in Medical and Surgical Chests." Dr. L. Crow is now in charge of the Roentgenological Department of St. Joseph's Hospital and brings to it his experience in a similar capacity at the San Francisco and Southern Pacific Hospitals. With two sisters as his technicians the department has been made attractive and efficient. A. S. Musante, president of the staff, reported upon the success of the first class in the School of Nursing, and the usefulness of the "In" and "Out" register. Progress in the program for the construction of the second concrete unit of the hospital was made. New patients for July were 175 (surgical 111, medical 34, obstetrical 15, and X-ray and laboratory 14); deaths 9, and discharged 161 (recovered 115, improved 32, unimproved 5). Case records were discussed by P. Collischon, cerebral hemiplegia; R. H. Berndt, prostatic hypertrophy, and Walter Smith, eclampsia.

SAN JOAQUIN COUNTY

San Joaquin County Medical Society (reported by Dewey R. Powell, secretary)—The regular meeting of the San Joaquin County Medical Society was held at the Receiving Department of the State Hospital on the evening of September 8. Those present were: H. Smythe, B. J. Powell, C. D. Hollinger, J. D. Dameron, Grace McCoskey, L. Dozier, J. E. Barnes, A. H. McLeish, J. Hull, C. R. Harry, W. Freidberger, C. F. English, D. R. Powell with L. R. Taussig and Alfred Spalding of San Francisco as guests and speakers of the evening.

The secretary announced with deep regret the death of Dr. H. N. Cross on August 18, 1922, a member of the Society and stated that a floral piece and message of condolence had been sent to the surviving widow.

Alfred Spalding of Stanford University spoke on "Vesico-Vaginal Fistulae." Spalding illustrated his remarks with lantern slide pictures which showed very conclusively the anatomical relations and the problems which have to be solved in correcting such fistulae. He emphasized the importance of dissecting out thick layers of fascia and overlapping the same in order to get a firm support. The paper was discussed by Doctors Dameron, Harry,

English and others and Spalding answered several questions in his usual clear, concise manner.

L. R. Taussig of the University of California staff spoke on the subject of "The Radium Treatment of Carcinoma of the Lip." He was quite convinced of the advantages of the use of radium in the early stages of carcinoma on account of less scarring and the avoidance of surgical procedure. On the other hand, the discomfort of the treatment was a disadvantage and the inability to obtain a specimen for exact pathological diagnosis. Taussig showed several lantern slides of both early and advanced cases of carcinoma and stated again that the benefit of radium could only be expected in the early cases. The paper was discussed by several members present who concurred in the desirability of giving radium a chance in the early stages of carcinoma.

Buchanan Sanitarium, Lodi—It is reported that a new six-room maternity department is just being completed for this institution. The hospital contains twenty rooms for patients. The hospital is a private institution operated by R. A. Buchanan of Lodi.

SAN LUIS OBISPO COUNTY

Harrison Neal, M. D., died in March at San Miguel, California, at the age of 87. Dr. Neal was a graduate of Jefferson Medical College and spent many years in practice at Paso Robles.

SANTA BARBARA COUNTY

Santa Barbara County Medical Society (reported by P. C. Means, secretary pro tem)—The Society held its August meeting at the Cottage Hospital, President W. J. Mellinger presiding. S. E. Sansum read a "Preliminary Report on Insulin." After reviewing the diet in diabetes he gave a short history of the initial work in the diagnostic and therapeutic value of insulin in diabetes by J. R. MacLeod. Sansum presented the histories and charts of nine cases in which he had used this new pancreatic extract with encouraging results. G. W. Jean presented cases of cataract and sac operations. This was the largest meeting of the year, with three-fifths of the membership present. The secretary, A. C. Soper, was absent at the M. R. C. training camp at Monterey.

County Hospital—The annual report of Mr. C. G. Vandever, superintendent of this hospital, has been submitted. The cost of operating the hospital for the year was $78,914.12 or $2.40 per "patient day." Patients were divided as medical, 276; surgical, 170; tubercular, 78; contagious, 26; maternity, 29; births, 22; emergency, 3; custodial, 16. The hospital has grown from 216 admissions in 1917 to 620 in 1922.

SONOMA COUNTY

Hospitals, Clinics and Laboratories (reported by N. Juell, secretary)—Sonoma County Hospital, sixty beds, located at Santa Rosa; matron, Miss Schwab; County physician, F. O. Pryor.

Mary Jesse Hospital, twenty beds, located at Santa Rosa; matron, Mrs. Williamson.

Santa Rosa General Hospital, twenty-eight beds; Miss Levy, superintendent; H. G. Guttermuth, owner and manager.

Dr. Fisher's Sanitarium, located at Santa Rosa, seven beds; C. E. Fisher, owner and manager.

Ovalcrest Convalescent Home at Santa Rosa, Major Brandon, owner and manager.

Beaucourt Convalescent Home at Santa Rosa; C. H. Stevens, owner and manager.

Santa Rosa also has three Maternity Homes owned and operated by Mrs. Nelligan, Mrs. Manion and Mrs. Shaafsma, respectively.

Santa Rosa Clinical Laboratory, owned and operated by A. B. Hewitt.

Santa Rosa X-ray Laboratory, including radium and electrical therapeutics, owned and managed by O. N. Young.

Santa Rosa Sanitarium, thirty beds; owned and managed by C. B. Schoenfeld.

Cloverdale General Hospital, ten beds; owned and managed by W. C. Shipley.

Healdsburg General Hospital, twelve beds; owned and managed by Mrs. Marcella Jones.

Petaluma General Hospital, eighteen beds; owned and managed by Doctors Peoples and Lunsden.

Petaluma Hillside Hospital, fourteen beds; owned and managed by Mr. Carl Haderman.

Cherry Hill Hospital, Petaluma, eight beds; owned and managed by Mrs. J. F. Jones.

Burke's Sanitarium, Burke postoffice; owned and managed by Dr. Burke.

Baby Clinics—Santa Rosa, Petaluma, Sebastopol and Sonoma. These clinics are operated by the Children's Welfare Society and the Red Cross.

Dental Clinics at Santa Rosa, Petaluma, Sebastopol and Sonoma. These clinics are operated by the Sonoma County Public Health Association.

Community Clinic at Santa Rosa. This clinic meets twice a month and is conducted by F. O. Butler and Mr. Ordahl, psychologist of the Sonoma State Home.

Sonoma State Home, Eldridge, Sonoma County. F. O. Butler, medical director.

Sonoma State Home—M. Covey, formerly of Philadelphia, has been appointed assistant director to F. O. Butler, medical director of the Sonoma State Home at Eldridge.

Lafayette L. Wilson, president of the Sonoma County Medical Society, died August 16 at his home in Sebastopol.

TULARE COUNTY

Tulare County Health Center—A published report of the activities of this free health Center shows that during the past month 136 patients were cared for from ten towns in the county. The physicians of Tulare County rendered the medical service.

Hospital Project for Dinuba—Doctors Paul R. Walters, Edgar Brigham, V. B. Gregory, A. N. Loper, and Louis Seligman are reported to be behind the project to secure a new hospital of from fifteen to twenty beds for Dinuba.

Board of Medical Examiners News—The Board of Medical Examiners announces that the results of the written examination held in San Francisco in June, show that eighty-five, including graduates of the College of Osteopathic Physicians and Surgeons of Los Angeles, passed the physicians and surgeons' examination. The highest mark (93 per cent) was made by Randolph G. Flood, a graduate of Stanford Medical School, 1922.

The University of California Medical School sent forty-two graduates for examination without a single failure, a record that has been maintained for over ten years.

Twelve graduates of Chiropractic colleges passed the Drugless Practitioner written examination. Mary J. Murphy, D. C., a graduate of the Western College of Chiropractic, San Francisco, made the highest grade (85 per cent), of the Chiropractic graduates.

During 1922, graduates of Chiropractic schools have successfully passed the written examination as follows: California Chiropractic College, 2; San Francisco, 2; Kinetic College of Chiropractic, Los Angeles, 3; Los Angeles Chiropractic College, 4; Pacific College of Chiropractic, Portland, Ore., 1; Western College of Chiropractic, San Francisco, 11.

Electronic Reactions of Abrams—Those who may be interested in this apparently profitable commercial enterprise will find interesting reading in the Boston Medical and Surgical Journal, August 17, 1922, pages 268 to 270.

28	*No. 28. Anti-Vivisection Anti-Health Initiative* A destructive measure that would increase tuberculosis among the children of California; stop the production of certified milk; ruin the canning industry; expose to fatal food poisons people who use California canned and other foods; jeopardize the poultry, dairy, livestock and agricultural interests; invite epidemics, plagues, quarantine and commercial disaster; shackle scientific practice and progress; prevent effective work of health boards, veterinarians, bacteriologists, research workers; *debar forever* educated physicians and surgeons who dare to render life-saving scientific service to the people of this State, and penalize the scientific study, prevention, cure and control of diseases that attack man and animals. Vote "NO."	Yes	
		No	X

Not that We Love Animals Less, But that We Love Humanity More

The people of California defeated the destructive anti-vivisection measure two years ago by a majority of 254,000, not that we love animals less, but that we love humanity more.

This absurd Anti-vivisection act would injure animals as much as man. It would doom animals to ravaging plagues and prevent their real friends from using scientific means to save them.

It prohibits the effective scientific methods by which hog cholera, anthrax, scab, blackleg, chicken cholera, Texas fever and various animal diseases are discovered, prevented and cured.

It prohibits the manufacture of serums and vaccines for the treatment and prevention of diphtheria, smallpox, hydrophobia and lockjaw.

The preventive and curative work of physicians, the safety of surgery, the conquest of cancer, the prevention and cure of tuberculosis, syphilis, influenza, infantile paralysis and many other diseases are dependent upon ("vivisection") animal experimentation.

Ninety-five per cent of animal experiments are to determine purity and safety of drugs used by physicians, dentists and veterinarians for the benefit of man and animals.

Present laws of California adequately protect animals and prohibit inhumane treatment. There is no cruelty to animals in the laboratories of California. The scientific workers are devoted to advancing the welfare of men and animals.

The laboratories are open. The minds of the anti-vivisectionists are closed. They would substitute silly sentiment for beneficent scientific methods.

Combined with the chiropractic and osteopathic anti-health initiatives they form "THE OBTUSE TRIANGLE" which would permit the unqualified to practice unscientifically and prohibit the qualified from practicing scientifically.

The inhumane anti-vivisection measure would *debar from practice forever* physicians and surgeons who use a few guinea-pigs to save the lives of many people. Anti-vivisectionists forget that people "are of more value than many sparrows."

The truest lovers of animals recognize the need and value of animal experimentation. Ernest Harold Baynes, of whom President Roosevelt said, "He has the highest reputation in all forms of work for the care of animal life," presents and answers the vivisection question this way: "The whole question is one of proportion. If you could see two hundred and fifty mothers lined up with their babies in their arms, would you condemn them to painful death . . . in order to save from less painful death an equal number of guinea-pigs, rabbits and billy goats—or even dogs, much as we love them? Of course you wouldn't—nor would anyone who has imagination enough—to think straight and to see things in their proper proportions. . . . . It is safe to say that for every animal used in experiments a hundred human lives were saved in the World War alone."

Those who vote for this anti-vivisection measure must place a higher value upon one timid rabbit than upon a hundred brave men.

Who will vote to spread tuberculosis among the children of California? Tuberculosis is spread to children by milk and dairy products from tuberculous cattle. The control and eradication of tuberculosis among cattle would be prohibited by this anti-vivisection measure. Animal experimentation is indispensable to insure safe milk and pure food. Anti-vivisection would injure the people, animals and resources of every community of California without benefiting anybody or anything. Vote "NO" on Anti-Health Initiatives Nos. 16, 20, 28.

THE SOUTHERN CALIFORNIA MEDICAL SOCIETY

(Reported by William Duffield, President)

From a little leather-bound book, in a very clear and elegant penmanship, may be found the following: "At a meeting of the Los Angeles County Medical Society, April 6, 1888, W. G. Cochran offered the following resolution which was adopted: 'Resolved, That a committee of three be appointed to communicate with the regular physicians of Southern California to ascertain their wishes in regard to the organization of a District Medical Society.' In accordance with the resolution the president, G. W. Lasher, appointed as such committee W. G. Cochran, H. G. Brainerd and John L. Davis. The committee met and prepared a circular, explaining the purpose of the resolution; this circular together with an addressed postal card for response was then, on April 14, 1888, sent by the committee to about two hundred and fifty physicians of Southern California, including the counties of Kern, Los Angeles, San Bernardino, San Diego, San Luis Obispo, Santa Barbara and Ventura. In response to the circular about eighty replies were received, all, with two or three exceptions, favoring the proposed organization. On May 4, 1888, the committee made its report to the Los Angeles County Medical Society. Its action was approved and the committee was continued and authorized to call a meeting for the purpose of organizing a **District Medical Society.** The committee thereupon issued the call for Los Angeles, June 8, 1888. The meeting took place in Hotel Hollenbeck of Los Angeles on June 8, 1888, and about eighty physicians were present during the day."

And this is the story of the beginning of the Southern California Medical Society. Most of those who comprised that first eighty are no longer with us. But their good lives. **The District Medical Society** has brought a fellowship, a unity of effort for the good of the people and for the profession, a neighborliness, which could not be brought about by the County Society nor by the State Society in this great big empire of a State. It has never encroached upon the domain of either of its relatives, but has always brought the whole family into a better relationship twice a year.

This society has a fine record for clean, honest, scientific service, as well as for the fellowship, too. When one reads the pages of its history, one sees that these old fellows who founded it, and who were part of its earlier history, have very good reason for watching the service of those who have succeeded them. Indeed, they are very jealous of that past, and they are going to keep a sharp eye on the present of the society.

It would be interesting for the Journal to give some of the early history as one will find it in these carefully penned pages, for we know there are many members of our big State family who reach back to those days in sacred memories. There is a fine sentiment in it aside from the history—and what is there in life that is worth while that hasn't a lot of sentiment for seasoning.

Well, anyway, the next semi-annual meeting of the Southern California Medical Society—the "District Society"—will be held in Los Angeles on Friday and Saturday, November 3 and 4. Dr. Egerton Crispin, the secretary, has prepared a very excellent program—one good enough for any society, anywhere. Among the visiting speakers will be Louis Wilson, of the National Board of Medical Examiners and Dean of the Graduate School of the University of Minnesota, who will talk on the needs of the medical profession in their relation to the public, and the problems in medical education in their relation to the university and the public; E. C. Rosenow, Professor of Bacteriology in the Graduate School of the University of Minnesota, and Mayo Foundation, will present new research work in bacteriology and experimental medicine; Walter Alvarez of San Francisco will give "The Results of Clinical Observations and Blood Pressure Studies in Sixteen Thousand High School and University Students." A large number of other excellent papers by men of the "District," from Santa Barbara to Tia Juana and Mexicala.

In this society the discussions are given equal prominence with the papers, and the members who have accepted places on the program for discussion have been put in touch with the original paper, and have had much time in which to prepare their presentations. Special clinics will be held at many of the hospitals on the forenoon of the first day of the meeting. I regret my inability to furnish the Journal with the complete program, but that seems impossible at this writing. However, everybody may be assured that the two days will be crowded with excellent features from start to finish—days which will be most profitable to those who attend.

And all regular physicians are cordially invited.

BOOKS RECEIVED

The Practice of Medicine. By A. A. Stevens, M. D., Professor of Applied Therapeutics in the University of Pennsylvania; Professor of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania. Octavo of 1106 pages. Philadelphia and London: W. B. Saunders Company. 1922. Cloth, $7.50 net.

Radium Therapy. By Frank Edward Simpson, A. B., M. D., Professor of Dermatology, Chicago Policlinic. 391 pages with 166 original engravings. St. Louis: C. V. Mosby Company. 1922. Price, $7.

The Healthy Child From Two to Seven. A handbook for parents, nurses and workers for child welfare. By Francis Hamilton Maccarthy, M. D. 235 pages. New York: The Macmillan Company. 1922.

A Textbook of Clinical Periodontia. A study of the causes and pathology of periodontal disease and a consideration of its treatment. By Paul R. Stillman, D. D. S., and John Oppie McCall, A. B., D. D. S. 240 pages. New York: The Macmillan Company. 1922.

The Law of Vital Transfusion and the Phenomenon of Consciousness. An account of the necessity for and probable origin of the development of sex and of the development of the conscious state in the evolution of the organic world, with a preliminary statement of fundamental cosmical principles. By Charles J. Reed. San Francisco: Occidental Publishing Company. 1921.

Hay Fever and Asthma. Care, prevention and treatment. By William Scheppergrell, A. M., M. D. 274 pages. Illustrated with 107 engravings and one colored plate. Philadelphia and New York: Lea and Febiger. 1922. Price, $2.75.

Nutrition and Specific Therapy. By Dorothy E. Lane, S. B. 185 pages. New York: The Macmillan Company. 1922.

Readings in Evolution, Genetics and Eugenics. By Horatio Hackett Newman, Professor of Zoology in the University of Chicago. 512 pages. Chicago: University of Chicago Press. 1921.

Paracelsus. His personality and influence as physician, chemist and reformer. By John Maxson Stillman, Professor of Chemistry Emeritus, Stanford University. Chicago and London: The Open Court Publishing Company. 1920. Price, $2.

The Life of Jacob Henle. By Victor Robinson, M. D. 117 pages. New York: Medical Life Company. 1921.

The Eighteenth Amendment. And the part played by organized medicine. By Charles Taber Stout. 216 pages. New York: Mitchell Kennerley. 1921.

American Red Cross Work Among the French People. By Fisher Ames, Jr. 178 pages. New York: The Macmillan Company. 1921.

Physical Diagnosis. By W. D. Rose, M. D., Lecturer on Physical Diagnosis and Associate Professor of Medicine in the University of Arkansas. Second edition. 736 pages. 309 illustrations. St. Louis: C. V. Mosby Company. 1921. Price, $8.50.

History and Bibliography of Anatomic Illustration in its relation to anatomic science and the graphic arts. By Ludwig Choulant. Translated and edited by Mortimer Frank, B. S., M. D. 435 pages. Chicago: University of Chicago Press. 1920.

Smithsonian Institute Bureau of American Ethnology, Bulletin 73; Early History of the Creek Indians and Their Neighbors. By John R. Swanton, Washington, Government Printing Office 1922.

Same, Bulletin 75; Northern Ute Music. By Frances Densmore, Washington, Government Printing Office, 1922.

A Text Book of Gynecology. By James Young, D. S. O., M. D., F. R. C. S. (Edin.), Assistant Physician, Royal Maternity Hospital; Lecturer in Clinical Gynecology and Clinical Obstetrics, Edinburgh University; late University Clinical Tutor in Surgery; Gynecologist, Provident Dispensary, Edinburgh; Examiner, Central Midwives Board of Scotland, etc. 183 Illustrations. New York: The Macmillan Company. London: A. & C. Black, Limited.

Endocrine Glands and the Sympathetic System. By P. Lereboullet, P. Harvier, H. Carrion, A. G. Guillaume. Translated by F. Raoul Mason, M. D., Instructor in Pediatrics, New York Post-Graduate Medical School and Hospital; Assistant Attending Physician, Willard Parker Hospital; Assistant Pediatrist, New York Post-Graduate Medical School and Hospital, Out-Patient Department; Assistant Attending Physician, Babies' Ward, New York Post-Graduate Medical School and Hospital. With the collaboration of Daniel R. Ayres, A. B., M. D., Assistant Professor of Gynecology, New York Post-Graduate Medical School and Hospital; Assistant Visiting Obstetrician, City Hospital, New York. Philadelphia and London: J. B. Lippincott Company. 1922.

Diseases of the Thyroid Gland. By Arthur E. Hertzler, M. D., F. A. C. S., Professor of Surgery in the University of Kansas School of Medicine; Surgeon to the Halstead Hospital, Halstead, Kansas; Surgeon to St. Luke's Hospital and St. Mary's Hospital, Kansas City, Mo., and to Provident Hospital, Kansas City, Kansas. With a chapter on Hospital Management of Goiter Patients, by Victor E. Chesky, A. B., M. D., Associate Surgeon to Halstead Hospital. 106 original illustrations. St. Louis: C. V. Mosby Company. 1922.

Obstetrical Nursing. A Text Book on the Nursing Care of the Expectant Mother, the Woman in Labor, the Young Mother and Her Baby. By Carolyn Conant Van Blarcom, R. N., formerly Assistant Superintendent and Instructor in Obstetrical Nursing and the Care of Infants and Children at the Johns Hopkins Hospital Training School for Nurses; Author of "The Midwife in England." With 200 illustrations and 8 charts. New York: The Macmillan Company. 1922.

Food, Health and Growth. By L. Emmett Holt, M. D., LL. D., President Child Health Organization; formerly Professor of Diseases of Children in the College of Physicians and Surgeons, Columbia University, New York. A discussion of the nutrition of children. New York: The MacMillan Company. 1922.

X-Ray Dosage in Treatment and Radiography. By William D. Witherbee, M. D., Radiotherapist, Presbyterian Hospital, New York; formerly Roentgenologist, Rockefeller Institute, and John Remer, M. D., Radiotherapist, New York Hospital, New York; Consulting Radiotherapist, United Hospital, Port Chester. New York: The MacMillan Company. 1922.

Surgical and Mechanical Treatment of Peripheral Nerves. By Byron Stookey, M. D., Associate in Neurology, Columbia University; Assistant Professor of Neurosurgery, New York Post-Gradate Medical School and Hospital. With a chapter on Nerve Degeneration and Regeneration by G. Carl Huber, M. D., Professor of Anatomy, University of Michigan. Octavo volume of 475 pages with 217 illustrations, 8 in color and 20 charts. Philadelphia and London: W. B. Saunders Company. 1922. Cloth, $10 net.

Hughes' Practice of Medicine. Including a section on mental diseases and one on diseases of the skin. Twelfth edition. By R. J. E. Scott, M. A., B. C. L., M. D., New York, Fellow of the New York Academy of Medicine; Fellow of the American Medical Association; formerly Attending Physician to the Demilt Dispensary; formerly Attending Physician to the Bellevue Dispensary; author of "The State Board Examination Series"; editor of "Witthaus' Text Book of Chemistry," "Witthaus' Essentials of Chemistry and Toxicology," "The Practitioner's Medical Dictionary," Gould and Pyle's "Cyclopedia of Medicine and Surgery," etc. With 63 illustrations. Philadelphia: P. Blakiston's Sons & Company, 1012 Walnut street.

Obstetrics for Nurses. By Joseph B. De Lee, M. D., Professor of Obstetrics in the Northwestern University Medical School, Chicago. New (sixth) edition, entirely reset. 12mo of 525 pages, with 245 illustrations. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, $3 net.

Diseases of the Skin. By Henry H. Hazen, A. B., M. D., Professor of Dermatology in the Medical Department of Georgetown University; Professor of Dermatology in the Medical Department of Howard University; sometimes Assistant in Dermatology in the Johns Hopkins University. Second edition, 241 illustrations. St. Louis: C. V. Mosby Company, 1922.

BOOK REVIEWS

Management of the Sick Infant. By Langley Porter and William E. Carter. St. Louis: C. V. Mosby Company. 1922.

The proper construction of a textbook or of any book of reference should be based directly on the needs of the people who are expected to use it. The neglect of this point of view is responsible for the small value of many—perhaps most—of the numerous texts which are turned out every year. The majority of them are written by teachers and addressed to their students and bear the mark of the class-room rather than of actual life and reality. Medical books especially suffer from this fault. Too few of them are put out by the clinician for the clinician. Too few of them readily yield the answer to the questions for which the practitioner turns to their pages. He may wish to know to what diagnosis a particular set of unusual symptoms point, or what is a better treatment than his own for a given disease, or the details of a therapeutic technique with which he is familiar with only in principle. In the first case, consulting the average book he will find that he must read over the descriptions of several diseases in the same general group; in the second case, he is apt to find the customary "standard" methods with which he is already familiar, and in the third case, he will rarely find any help at all. It is a frequent comment that textbooks serve to perpetuate the mistakes of their predecessors. Certainly most of them are not based entirely or even in large part on the direct experience of their authors. Because it was an exception to this rule, Osler's "Practice of Medicine" took the medical world by storm with its freshness and its originality of observation, while maintaining a critical appreciation of the old.

It is to the credit of the Pacific Coast that its most recent—and one of its few—medical texts should bear the same stamp of reality and should be so intelligently planned to meet actual needs. It can be at once recommended to any practitioner of medicine who has to deal with the diseases of young children. It avoids the mistakes which have been discussed and offers the advantages which have been mentioned. The book is arranged in three sections. The first is devoted to a consideration of the significance of symptoms and to the indications for treatment which they present. The second section is given up to a descriptive outline of the diseases peculiar to early childhood. Both these exhaustive without pedantry plainly reflect the mature conclusions of the senior author's long and great clinical experience in pediatrics. They merit a more extensive description than our space allows. The third section, devoted to a listed description with illustrations of equipment and exact procedure for each of the technical diagnostic and therapeutic methods used in pediatrics, is unique in textbooks in English, and, indeed, is not equalled for completeness in any language. There is no reason why the general practitioner, acquainted with the principles of medical technique, should not be able from a careful perusal of this book to carry out the methods which hitherto have been left to a few specialists. Further, his nurse by referring to the book herself will be able to have all the necessary equipment prepared for him in advance—a considerable saving of time.

The reviewer has for a number of years considered that there were only two American texts which were indispensable to the practicing pediatrist—that of Holt and Howland, and that of Morse and Talbot. To these he is now inclined to add that of Porter and Carter because of its practical utility and its freshness of matter and because it offers material which is not to be found elsewhere in readily available form. H. K. F.

Principles of Immunology. By Howard T. Karsner, M. D., and Enrique E. Ecker, Ph. D. 309 pages. Illustrated. Philadelphia and London: J. B. Lippincott Company. 1921.

This is a valuable guide for students or practitioners of medicine who desire a concise statement of the facts and the hypotheses concerning resistance to infection. The general arrangement of the text is excellent and the difficult subject is presented in a remarkably clear manner. Facts established by experimental studies are detailed and supplemented by brief discussions of the practical and theoretical bearing of the phenomena upon disease and resistance in man. In twelve chapters the following subjects are reviewed: Virulence of organisms, general conditions of infection and resistance, general phenomena of immunity, toxins and antitoxins, agglutinins and precipitins, cytolysins, cellular resistance, complement fixation, application of complement fixation to the diagnosis of disease, hypersusceptibility, hypersusceptibility in man and defensive ferments. The practical application of immunology to the prevention and cure of disease has been summarized in three appendices, dealing with the therapeutic employment of blood serums, prophylactic vaccination and vaccine therapy. Throughout the text valuable information is given relative to the technical execution of experiments. Some of the customary laboratory procedures are explained and enhanced by drawings or colored plates. This book is a valuable addition to any medical library. K. F. M.

Clinical Diagnosis. A textbook of clinical microscopy and clinical chemistry for medical students, laboratory workers and practitioners of medicine. By Charles Phillips Emerson, A. B., M. D. 5th ed. 726 pages. Illustrated Philadelphia and London: J. B. Lippincott Company. 1921.

It is ten years since the last edition of this book appeared. In its preface, the author condemns the present separation of laboratory and ward, and "No matter how successful a man may be, he has no right to entrust his laboratory work entirely to others. . . . . The one who takes the history of the patient and makes the physical examination is the only one who can interpret correctly a laboratory finding." Herein lies the value of this book, one of the best on clinical diagnosis. L. E.

The Surgical Treatment of Non-Malignant Affections of the Stomach. By Charles Greene Cumston, M. D., and Georges Patry, M. D. 349 pages. Philadelphia: J. B. Lippincott Company. 1921.

There is nothing new in this book, but it is a compilation founded on a wide study of the literature and personal visits of the authors to a great many foreign clinics. L. E.

Tuberculosis in Infancy and Childhood. By J. Claxton Gittings and Frank Crozer Knowles and Astley P. C. Ashhurst. 273 pages. Illustrated. Philadelphia and London: J. B. Lippincott Company. 1922.

This book is a most concise, though at the same time complete, presentation of tuberculosis in infants and children. In slightly over 250 pages, the authors present a short historical review, general aspects of the disease and detailed description of the disease in the several organs; also instructions for the application of various tests.

To tuberculosis of the skin (F. C. Knowles) is given a very interesting and extensive chapter, whereas bones and joints have been treated rather too briefly. The notes on treatment of tuberculosis

are in general sane and practical. However, advice somewhat exceeds the margin of safety in openly advocating "euthanasia by toys" in certain cases.
M. H. L.

The Place of Version in Obstetrics—By Irving W. Potter, M. D., F. A. C. S. 138 pages, with 42 illustrations. St. Louis: C. V. Mosby Company, 1922. Price, $5.

Unfortunately, only about fifty pages of the one hundred and forty of this monograph contain personal experiences of the author. Some seventy pages are devoted to the history of version. This portion of the volume is unquestionably the more interesting one, since it quotes many of the classical authorities verbally. As far as the chapters on technique are concerned, there is nothing new that has not been done in most every well conducted maternity. There is little argument offered and less proof given that the author's contention of delivering all women by version and extraction can be accepted for general teaching. Like in all other fields where technical skill can be developed to the finest point by a large amount of experience, so in obstetrics Potter has shown that this can be done without undue risk to the patient and the child. It is interesting that his percentage of Caesarean Sections runs close to 10 per cent of all cases delivered.

In a monograph like this one would expect the author to give his complete experience with this work rather than just a very meager discussion of the work of two years.

When reading the last chapters one can not help but feel that the author was hurrying to finish his volume for the press. I refrain from discussing the style of presenting the subject.

There are many salient points made in this book that are worth while to scrutinize. Aside from that and the historical introduction, this monograph is decidedly unsafe in the hands of students and beginners.
L. A. E.

Clinical Electrocardiography—By Frederick A. Willius, B. S., M. D., M. S., in medicine. One hundred and eighty-eight pages, with 185 illustrations. Philadelphia and London: W. B. Saunders Company, 1922.

The author shows that he appreciates the difficulties of the study. He has carefully digested the literature on the subject and gives it to the students of electrocardiography in an easy, digestible form. In his numerous pictures of electrocardiograms in cases of angina pectoris, it would have been better had he called attention to the peculiar characteristics, if any were present, in each of the electrocardiograms which he shows.
H. S.

An Essay on the Physiology of Mind. An interpretation based on biological, morphological, physical and chemical considerations. By Francis X. Dercum. Philadelphia and London: W. B. Saunders Company, 1922.

This 150-page essay of Dercum's is a protest against the attitude of those metaphysicians and psychologists by whom "the phenomena of mind have been approached as though they were peculiar in their character and being; as though a difference, essential and intrinsic, separated these phenomena by a wide and hopeless gap from all other phenomena of nature." In the first part of the book, one begins with the unicellular organism without nervous system, proceeds by way of the sponges through the fishes and the higher vertebrates to the fully developed human. No especial difficulty is encountered until one meets the word "consciousness" on page 82. The rest of the book is devoted to bridging the gap. The final chapter endeavors to explain the psychoses and the psycho-neuroses in terms of physiology. It is good reading for those who have read much or who will read much. Others may as well let it alone.
E. W. T.

BUSINESS AND THE BUSY PHYSICIAN

Why not let our advertisers help you?

Drugs and Chemicals—The teachings of the physiological action of drugs and chemicals are based primarily upon the quality of the chemical. A certain element of success in the treatment of diseases, therefore, depends upon the quality of the prescribed agents. In many instances not enough attention is given to this important feature of medicine. Physicians have come to rely for accuracy in the manufacture of chemicals upon the integrity of the manufacturer and also upon the reports of the Council on Pharmacy and Chemistry of the A. M. A.

It is not the policy of the Journal to commend one good manufacturer above another, but we will not knowingly carry the advertisement of any manufacturer or distributing agent who has not the endorsement of the laboratories of our own national association. The advertising columns of this issue of the Journal carry manufacturers' announcements of a number of chemicals and drugs. These have all been accepted by the Council on Pharmacy and Chemistry. In this list may be mentioned the medicated alcohol of the Mifflin Chemical Corporation for external use; "Cinchophen" of the Abbot Laboratories; anti-toxins, serums and vaccines of Parke, Davis & Co.; the Cutter Laboratories; Eli Lilly & Co.

More general manufacturers and distributors of standard drugs and chemicals who hold accredited standing on the advertising pages of this Journal are: Lederle Anti-toxin Laboratories; Powers-Weightman-Rosengarten Company; The Wander Company; The Wilson Laboratories; E. R. Squibb & Sons.; Hynson, Westcott & Dunning; Schering & Glatz; Arlington Chemical Company; Maltbie Chemical Company; Laboratories of G. H. Sherman, M. D.

The drugs and chemicals of these manufacturers may be commended so long as their advertisements are accepted by this Journal.

More About Investments—The attention of all of our readers is called to the advertisement of E. H. Rollins & Sons in the advertising columns of this issue of the Journal. This is one of the oldest and most reliable of the security and investment houses of this country. In addition to careful scrutiny of securities, the representatives of this house offer personal service to physicians in selecting securities and investments.

It is pleasing to note that physicians are utilizing more and more legitimate channels of investment for their earnings than we did as a class in former years. Financial agents assure us that it is constantly growing more difficult to sell physicians the proverbial "wildcat" stocks and investments, although as a class we are still toward the top of the list of gullibles.

Physicians interested in investments and securities will make no mistake in consulting E. H. Rollins & Sons before they act—not afterwards, as we often do.

We believe that every physician who holds a government, state or county position should be a member of the State medical organization, and the failure of any acceptable physician to be a member is certainly a sign that he is not awake to his own best interests. Organized medicine stands for the advancement and protection of its members and the protection of the public against incompetent and unscrupulous practitioners; so if you are competent and ethical you should get aboard, and when you get aboard don't rock the boat.—Nevada Medical Bulletin, August 15, 1922.

EXTENSION WORK

The following additions have been made to the Extension Lecture courses offered by members of the State Society to local societies. (See November, February, March, June, and July Journals for other lectures.)

G. Carl H. McPheeters,
1021 Mattie Bldg., Fresno.

I—Obstetrics vs. Midwifery.

1. A brief historic account of the oldest branch of medicine.
2. The evils of the midwife system briefly set forth.
3. The beginning and rise of the present-day obstetrics.
   (a) Instruments in Obstetrics.
   (b) Anasthesia in Obstetrics.
   (c) Surgery in Obstetrics.
   (d) Prenatal care in Obstetrics.
   (e) Postpartum care and follow-up.
4. Development of Obstetrics.
5. Present status of Obstetrics as a branch of medicine. Most often combined with Gynecology, sometimes with Pediatrics and occasionally practiced by itself alone.
6. The great need of better Obstetrics as shown by maternal and infantile mortality and morbidity in the United States.
7. Rewards of better Obstetrics to patients and physicians set forth.

II—Prenatal Care in Obstetrics.

1. Great value of examination of both parties prior to marriage, a matter physicians should emphasize.
2. Each married woman should have a complete physical examination before each pregnancy begins and especially before her first pregnancy. Physicians must teach laity the importance of this.
3. Physical examinations before pregnancy will disclose anemia, focal infections, pelvic deformities, and gross diseases incompatible with normal pregnancies, such as tuberculosis, syphilis, diabetes, nephritis, heart disease with hyperthyroidism, whenever present. Many married women become pregnant with diseases present, of which they are not aware.
4. Examination early in pregnancy. Anemia and focal infections are exhibited by most women who present themselves for examination.
5. Written instructions given patient at her first visit. Treatments for anemia and other troubles begin at once. Care of abdomen and breasts advised. Urine examinations, visits to doctor, diet instructions, when needed.

III—Care of the Abdomen and Breasts in Pregnancy.
(Illustrated with lantern slides.)

1. Striae—formation of skin.
2. Diastasis and distension of abdominal muscles.
3. Visceroptosis, which often includes ptosis of bladder and rectum.
4. Lordosis with posture disturbances; the "pot-belly" exaggerated by use of high-heel shoes.
5. Evils of modern dress brassier, worn by most women—pendulous, flat breasts and depressed nipples. Such breasts are worse after pregnancy and lactation.
6. Means of preserving figure-profile in pregnancy and lactation.
   (a) Massaging abdomen during the whole of pregnancy. Author's method described and illustrated.
   (b) Supporters for pregnant abdomen. The great mistake of going without any support. Supporters during pregnancy prevent distension of abdominal muscles with weakening of voluntary powers, and later visceroptosis because of weakened muscles.
   (c) Restoration of flat, pendulous breasts preparatory to function. Author's methods described. Maternity brassiers described and illustrated. Value of proper massage preparatory to function. Assistance of the endocrines where such assistance is clearly needed.

IV—The Toxemias of Pregnancy and their Treatments.

1. Facts causing toxemias in pregnancy.
   (a) Organic diseases, such as nephritis, tuberculosis, diabetes, syphilis, hyper-thyroid disease, active heart disease and pyelitis.
   (b) Minor foci of infection, such as pyorrhea alveolaris, nasal catarrh, nasal sinus infection, infected tonsils, lymph adenitis, cervicitis and hemorrhoidal infection.
   (c) Conditions secondary to disease: anemia, constipation, hyperacidity, headache, excessive nervousness and endocrine disturbances.
   (d) Types of toxemia described.
      1. Mild types and prognosis.
      2. Severe type and prognosis.
2. Treatments.
   (a) Treatments of mild type in detail.
   (b) Treatments of severe type in detail.
3. Prophylaxis of toxemia of pregnancy.
   (a) Pre-nuptial physical examination (every girl and young woman intending marriage should be examined).
   (b) By physical examination before pregnancy is undertaken.
   (c) By pre-natal physical examination and observation of the expectant mother.
   (d) By immediate correction of anemia, eradication of focal infections, and correction of constipation, hyperacidity and the early nausea and vomiting of pregnancy.
   (e) By immediate attention to every patient whose examination shows she is an apt subject to toxemia because of poor physical condition, or evident endocrine imbalance.
   (f) By immediate treatments for mild toxemia as a preventive of more severe toxemia.

OBITUARY

ALEXANDER RICHTER CRAIG

Dr. Alexander Richter Craig, secretary of the American Medical Association, died August 25, 1922, while on his vacation. Dr. Craig had not been well for some time, but that he was seriously ill had not occurred to him nor to his friends.

The American Medical Association, as well as its constituent State and county branches, all suffer a keen loss in the passing of Dr. Craig. His usefulness to medicine and public health and to the A. M. A. as an organization cannot be fully appreciated by those who were not in intimate contact with him in the central office.

The Medical Society of the State of California extends to Dr. Craig's bereaved family and his friends our sympathies in the hour of their bereavement.

DEATHS

McGarry, John A. Died in San Francisco, July 1, 1922, aged 47 years. Graduate L. A. Dept., University of California, 1898. Member of Los Angeles County Medical Society.

Palmer, Wilton H. Died in Los Angeles, August 24, 1922, aged 72 years. Graduate of Homeo. Hosp. Coll., Ohio, 1879.

Cooke, William Henry. Died at Redondo Beach, Calif., July 28, 1922. Graduate of Queens Univ., Ontario, Canada, 1888.

Reynolds, George P. Died at San Francisco, Calif., August 4, 1922, aged 75 years. Graduate of Medical Dept., Syracuse Univ., N. Y., 1873. He was a member of Alameda County Medical Society.

Wilson, Lafayette J. Died at San Francisco, August 15, 1922, aged 38. Graduate of Hahnemann Med. Coll. of Pacific, 1915. Member of Sonoma County Medical Society.

Nash, Francis O. Died at Hollister, Calif., August 19, 1922, aged 80 years. Dr. Nash was a graduate of Bowdoin Med. School, Maine, 1868. He was a veteran of the Civil War and had been a resident of Hollister for over 50 years. Was a member of the San Benito County Medical Society.

Bond, Frederick Taylor. Died at Vallejo, Calif., August 23, 1922, aged 58. Graduate of the Medical Dept., Univ. of California, 1890. Member of Solano County Medical Society.